

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

PUTNAM BANK, *on Behalf of Itself and All
Others Similarly Situated,*

Plaintiff,

v.

INTERCONTINENTAL EXCHANGE, INC.,
INTERCONTINENTAL EXCHANGE
HOLDINGS, INC., ICE BENCHMARK
ADMINISTRATION LIMITED (f/k/a NYSE
EURONEXT RATE ADMINISTRATION
LIMITED), ICE DATA SERVICES, INC.,
ICE PRICING AND REFERENCE DATA
LLC, BANK OF AMERICA
CORPORATION, BANK OF AMERICA
N.A., MERRILL LYNCH, PIERCE, FENNER
& SMITH INC., CITIGROUP INC.,
CITIBANK, N.A., CITIGROUP GLOBAL
MARKETS INC., JPMORGAN CHASE &
CO., JPMORGAN CHASE BANK, N.A., J.P.
MORGAN SECURITIES LLC, BARCLAYS
PLC, BARCLAYS BANK PLC, BARCLAYS
CAPITAL INC., BNP PARIBAS SA, BNP
PARIBAS SECURITIES CORP., CRÉDIT
AGRICOLE S.A., CRÉDIT AGRICOLE
CORPORATE AND INVESTMENT BANK;
CRÉDIT AGRICOLE SECURITIES (USA)
INC., CREDIT SUISSE GROUP AG,
CREDIT SUISSE AG, CREDIT SUISSE
SECURITIES (USA) LLC, DEUTSCHE
BANK AG, DEUTSCHE BANK
SECURITIES INC., HSBC HOLDINGS PLC,
HSBC BANK PLC, HSBC BANK USA, N.A.,
HSBC SECURITIES (USA) INC., LLOYDS
BANK PLC, LLOYDS SECURITIES INC.,
MUFG BANK, LTD., THE BANK OF
TOKYO-MITSUBISHI UFJ LTD.,
MITSUBISHI UFJ FINANCIAL GROUP
INC., MUFG SECURITIES AMERICAS
INC., THE NORINCHUKIN BANK,
COÖPERATIEVE RABOBANK U.A.,
ROYAL BANK OF CANADA, RBC
CAPITAL MARKETS, LLC,

Case No.

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

[Caption continued on following page]

ROYAL BANK OF SCOTLAND GROUP
PLC, ROYAL BANK OF SCOTLAND PLC,
NATIONAL WESTMINSTER BANK PLC,
NATWEST MARKETS SECURITIES INC.
(f/k/a RBS SECURITIES, INC.), SOCIÉTÉ
GÉNÉRALE S.A., SG AMERICAS
SECURITIES, LLC, SUMITOMO MITSUI
BANKING CORPORATION, SUMITOMO
MITSUI FINANCIAL GROUP INC.,
SUMITOMO MITSUI BANKING
CORPORATION EUROPE LTD., SMBC
CAPITAL MARKETS, INC., UBS GROUP
AG, UBS AG, and UBS SECURITIES LLC,

Defendants.

TABLE OF CONTENTS

I.	NATURE OF THE ACTION	2
II.	PARTIES	21
A.	Plaintiff	21
B.	Defendants	22
1.	ICE Defendants	22
2.	The Panel Bank Defendants	24
a.	Bank of America Defendants	24
b.	Citibank Defendants	25
c.	JPMorgan Defendants	26
d.	Barclays Defendants	27
e.	BNP Paribas Defendants	28
f.	Credit Agricole Defendants	30
g.	Credit Suisse Defendants	31
h.	Deutsche Bank Defendants	33
i.	HSBC Defendants	34
j.	Lloyds Defendants	36
k.	MUFG Defendants	37
l.	Norinchukin Defendant	38
m.	Rabobank Defendant	40
n.	RBC Defendants	41
o.	RBS Defendants	42
p.	Societe Generale Defendants	43
q.	Sumitomo Defendants	45
r.	UBS Defendants	47
3.	Agents, Affiliates, and Co-conspirators	48
III.	JURISDICTION, VENUE, AND COMMERCE	49
IV.	ALLEGATIONS OF FACT	53
A.	USD ICE LIBOR Rates Were Jointly Set and Disseminated in the United States for Incorporation into Domestic Transactions with U.S. Residents During the Class Period by the Concerted Action of Defendants	54
1.	The Panel of Banks and the Administrator that Depressed USD ICE LIBOR Submissions and Rates	54
2.	The Submission Question and Responses that Facilitated Depressed ICE LIBOR Submissions and Rates	56

3.	The Depressed USD ICE LIBOR Rates Resulted from Depressed ICE LIBOR Submissions	57
4.	The Depressed USD ICE LIBOR Rates Published in the United States for Incorporation into Financial Instruments Transacted in the United States	57
B.	LIBOR before ICE	60
C.	LIBOR Comes to America.....	62
D.	The Demise of the Interbank Funding Market Underlying USD ICE LIBOR Submissions and USD ICE LIBOR Rates	64
E.	USD ICE LIBOR Submissions and USD ICE LIBOR Rates Were Depressed During the Class Period	70
1.	USD ICE LIBOR Submissions and Rates Did Not Reflect the Panel Bank Defendants' True Costs of Borrowing.....	70
a.	Interest on Excess Reserves	72
b.	General Collateral	80
c.	CDS Spreads	82
2.	USD ICE LIBOR Submissions and Rates Violated Benford's Law	86
F.	The Depressed USD ICE LIBOR Submissions and Rates Were the Product of Collusion.....	89
1.	Corruption of Joint Process.....	90
2.	Additional "Plus Factors" Indicating Conspiracy.....	95
a.	Motive to Conspire	95
b.	Opportunity to Conspire	96
c.	Recidivism	97
d.	Actions Against Unilateral Self-Interest.....	98
3.	No Natural Reaction to Common Stimuli.....	98
G.	USD ICE LIBOR Financial Instruments under which Class Members Directly Received Depressed LIBOR-Indexed Payments from Panel Bank Defendants ...	99
1.	Floating-Rate Notes and Other USD ICE LIBOR-Indexed Floating Rate Debt Instruments Issued by Panel Bank Defendants under Which Investors Received Floating Rate Payments Directly from Panel Bank Defendants	100
2.	USD ICE LIBOR-Indexed Interest Rate Swaps under which Counterparties Received Floating Rate Payments Directly from Panel Bank Defendants	101
H.	Defendants' Roles in Achieving the Purpose and Effect of the Conspiracy	102
V.	CLASS ACTION ALLEGATIONS	104
VI.	STATUTES OF LIMITATIONS AND TOLLING.....	106
VII.	CLAIMS FOR RELIEF	108
	CLAIM I: PRICE FIXING	108

CLAIM II: UNJUST ENRICHMENT.....	109
VIII. PRAYER FOR RELIEF	109
IX. DEMAND FOR JURY TRIAL	110

PUTNAM BANK (“Plaintiff”), on behalf of itself and all others similarly situated, brings claims under the Sherman Antitrust Act, Clayton Antitrust Act, and state law, for Defendants’ collusive manipulation of ICE LIBOR from February 1, 2014, through the present (the “Class Period”). Plaintiff names as Defendants Intercontinental Exchange, Inc., Intercontinental Exchange Holdings, Inc., ICE Benchmark Administration Limited (f/k/a NYSE Euronext Rate Administration Limited), ICE Data Services, Inc., ICE Pricing and Reference Data LLC, Bank of America Corporation, Bank of America N.A., Merrill Lynch, Pierce, Fenner & Smith Inc., Citigroup Inc., Citibank, N.A., Citigroup Global Markets Inc., JPMorgan Chase & Co., JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, Barclays plc, Barclays Bank plc, Barclays Capital Inc., BNP Paribas SA, BNP Paribas Securities Corp., Crédit Agricole S.A., Crédit Agricole Corporate and Investment Bank, Crédit Agricole Securities (USA) Inc., Credit Suisse Group AG, Credit Suisse AG, Credit Suisse Securities (USA) LLC, Deutsche Bank AG, Deutsche Bank Securities Inc., HSBC Holdings plc, HSBC Bank plc, HSBC Bank USA, N.A., HSBC Securities (USA) Inc., Lloyds Bank plc, Lloyds Securities Inc., MUFG Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ Ltd., Mitsubishi UFJ Financial Group, Inc., MUFG Securities Americas Inc., The Norinchukin Bank, Coöperatieve Rabobank U.A., Royal Bank of Canada, RBC Capital Markets, LLC, Royal Bank of Scotland Group plc, Royal Bank of Scotland plc, National Westminster Bank plc, Natwest Markets Securities Inc. (f/k/a RBS Securities, Inc.), Société Générale S.A., SG Americas Securities, LLC, Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Financial Group, Inc., Sumitomo Mitsui Banking Corporation Europe Ltd., SMBC Capital Markets, Inc., UBS Group AG, UBS AG, and UBS Securities LLC (collectively, “Defendants”). Based upon personal knowledge, information and belief, and investigation of counsel, Plaintiff alleges:

I. NATURE OF THE ACTION

1. This case concerns the financial benchmark ICE LIBOR® (“ICE LIBOR”), which, from February 1, 2014, through the present, has been “the world’s most widely used benchmark for short term bank borrowing rates,”¹ and which, since that date, has been collusively set at artificially low levels by Defendants, to the detriment of investors in financial instruments indexed to the benchmark, such as Plaintiff and members of the Class.²

2. “No reference rate is more ubiquitous”³ than is ICE LIBOR, which “is a cornerstone of the financial industry today.”⁴ Hundreds of trillions of dollars in floating-rate financial instruments are indexed to ICE LIBOR. Such instruments include floating-rate notes and interest rate swaps, among other types of financial instruments under which investors receive payments in an amount dependent upon the level at which the benchmark rate is set. ICE LIBOR is the dominant interest rate benchmark. Defendants collectively control the benchmark and the level at which it is set.

3. ICE LIBOR benchmark rates are set jointly and published each business day based on daily submissions by a group of multinational banks (the “Panel Bank Defendants”). The Panel Bank Defendants are: Bank of America, Citigroup, JPMorgan, Barclays, BNP Paribas, BTMU, Credit Agricole, Credit Suisse, Deutsche Bank, HSBC, Lloyds, Norinchukin, Rabobank, RBC, RBS, Societe Generale, Sumitomo, and UBS (as defined herein).

¹ ICE, *ICE Benchmark Administration, Benchmark Statement-ICE LIBOR*, at 1 (May 14, 2018), https://www.theice.com/publicdocs/LIBOR_Benchmark_statement.pdf.

² Plaintiff expressly disclaims claims for damages arising from Defendants’ conduct prior to February 1, 2014, and from Defendants’ conduct prior to USD LIBOR being administered by ICE.

³ Lorie K. Logan, Sr. Vice President, Federal Reserve Bank of New York, *The Role of the New York Fed as Administrator and Producer of Reference Rates* (Jan. 9, 2018), <https://www.newyorkfed.org/newsevents/speeches/2018/log180109>.

⁴ Serge Gwynne, *What Does Replacing LIBOR Mean for Financial Firms?* OLIVER WYMAN <https://www.oliverwyman.com/our-expertise/hubs/libor.html> (last visited Jan. 10, 2019).

4. The Panel Bank Defendants not only participate in setting ICE LIBOR; they transact in financial instruments indexed to ICE LIBOR in the United States. In particular, the Panel Bank Defendants transact in floating rate financial products in which ICE LIBOR rates form a component of the price of the financial products, including when the interest payable by the Panel Bank Defendants to investors is dependent upon the rate they set.

5. The Intercontinental Exchange, Inc. (“ICE”), which owns and operates the New York Stock Exchange, is the “administrator” of ICE LIBOR. As administrator, ICE is charged with collecting and validating the Panel Bank Defendants’ submissions, calculating and publishing the benchmark rates derived from those submissions, and implementing the rules and procedures governing the rate-setting process to safeguard it from manipulation.

6. The fundamental rule governing the ICE LIBOR rate-setting process is the ICE LIBOR “Submission Question,” which defines the benchmark. By definition, ICE publishes daily rates based on the Panel Bank Defendants’ ostensibly independent responses to the Submission Question, which is put to the Panel Bank Defendants each business day:

At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11am?⁵

7. To ask or to answer this question is to assert that there is an active “interbank” funding market in which the Panel Bank Defendants “could” expect to “borrow funds.” However, as financial regulators have explained, there is no such underlying market. Although ICE LIBOR supposedly “gauges the interest rate, credit premium and liquidity premium that a

⁵ ICE, *ICE LIBOR Overview*, <https://www.theice.com/iba/libor>. Unless otherwise noted, emphasis is added.

leading bank would expect to be offered by another similar institution,”⁶ regulators have revealed that the market for interbank unsecured borrowing, which is the market that Defendants have held out as underlying ICE LIBOR throughout the Class Period, has all but ended in recent years. In the words of the current Chairman of the Federal Reserve, Jerome Powell, and the Chairman of the Commodity Futures Trading Commission, J. Christopher Giancarlo: “In essence, ***banks are contributing a daily judgment about something they no longer do.***⁷ The Chairman of the Federal Reserve and the Chairman of the CFTC further explain:

A lack of robustness, due to shrinking underlying markets, in certain key IBORs, coupled with the large volume of financial transactions that references these rates, has resulted in systemic risk concerns The minimal number of transactions in the unsecured interbank funding market means that submissions by panel banks are largely based upon judgment (as opposed to transactions).⁸

8. While approximately \$200 trillion in financial instruments are indexed to U.S. dollar ICE LIBOR (“USD ICE LIBOR”), the Federal Reserve recently disclosed that the number of transactions underlying USD ICE LIBOR submissions is minuscule and that on “***many days there are no transactions at all.***⁹ The reality is that the Panel Bank Defendants “could” not “borrow funds” in U.S. dollars in the interbank market in any “reasonable market size,” much less “just prior to 11am” each and every morning during the Class Period.

⁶ *The Wheatley Review of LIBOR: final report*, at 75 (Sept. 2012), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191762/wheatley_review_1_ibor_finalreport_280912.pdf.

⁷ Jerome Powell and J. Christopher Giancarlo, *How to Fix Libor Pains*, THE WALL STREET JOURNAL (Aug. 3, 2017), <https://www.wsj.com/articles/how-to-fix-libor-pains-1501801028>. See also ISDA, *IBOR Global Benchmark Survey 2018 Transition Roadmap*, at 24 (Feb. 2018), <https://www.isda.org/a/g2hEE/IBOR-Global-Transition-Roadmap-2018.pdf>.

⁸ *Id.*

⁹ Randal K. Quarles, *Introductory Remarks, Alternative Reference Rates Committee Roundtable* (July 19, 2018), Federal Reserve Bank, <https://www.federalreserve.gov/newsevents/speech/quarles20180719a.htm>.

9. While there was once a robust underlying market, interbank funding was in decline by the 2008 financial crisis, and market and regulatory changes during 2008 exacerbated its demise. In recent years, the interbank funding market has dried up almost entirely.¹⁰



10. Nevertheless, even though the underlying interbank lending market virtually disintegrated, the Submission Question that serves to define LIBOR has remained. On a daily basis during the Class Period, ICE has continued to ask the Submission Question and the Panel Bank Defendants have continued to answer it. As a result, ICE LIBOR has been based on the Panel Bank Defendants' responses asserting the existence of a market that Defendants have known no longer exists.

11. Nevertheless, each of the Panel Bank Defendants have been contributing ICE LIBOR submissions and using the published rate in transactions that have been tied to that benchmark rate on a daily basis since February 2014.

12. The lack of an active underlying market in interbank funding by which to tether panel submissions to a market-based reality has left ICE LIBOR susceptible to manipulation. As

¹⁰ Federal Reserve Bank of St. Louis (FRED), *Interbank Loans, All Commercial Banks (DISCONTINUED)*, <https://fred.stlouisfed.org/series/IBLACBW027NBOG#0>.

the head of the Federal Reserve Bank of New York, William Dudley, explained in connection with USD ICE LIBOR:

The essential problem with LIBOR is the inherent fragility of its “inverted pyramid,” where the *pricing of hundreds of trillions of dollars of financial instruments rests on the expert judgment of relatively few individuals*, informed by a very small base of unsecured interbank transactions. . . .

This lack of market liquidity means that these rates cannot be sufficiently transaction-based to be truly representative, and *rates that are not transaction-based are more at risk to be manipulated.*¹¹

13. Without a functioning funding market from which to draw submissions, the Panel Bank Defendants have been able to exploit their so-called “expert judgment” to manipulate USD ICE LIBOR submissions and rates through and under the cover of the official rate-setting process they collectively controlled with ICE.

14. Defendants took full advantage of this and corrupted the USD ICE LIBOR rate-setting process. Defendants combined and conspired to depress – and actually did depress – USD ICE LIBOR submissions and rates during the Class Period.

15. Defendants’ USD ICE LIBOR submissions and rates were consistently lower than what they should have been during the Class Period. Even though “each submission” in response to the daily Submission Question was purportedly “a subjective determination of the rate at which a given Panel Bank could transact,”¹² ICE LIBOR submissions and rates have been below the level at which the Panel Bank Defendants “could” have expected to obtain unsecured funding, even assuming they “could” borrow on a daily basis during the Class Period.

¹¹ William C. Dudley, President and Chief Executive Officer, *The Transition to a Robust Reference Rate Regime*, FEDERAL RESERVE BANK OF NEW YORK (May 24, 2018), <https://www.newyorkfed.org/newsevents/speeches/2018/dud180524>.

¹² ICE, *ICE LIBOR Evolution*, at 4 (Apr. 25, 2018), https://www.theice.com/publicdocs/ICE_LIBOR_Evolution_Report_25_April_2018.pdf.

16. Multiple statistical analyses show that USD ICE LIBOR submissions and rates have not reflected bank funding costs and that Defendants always, or nearly always, submitted and set rates below where they would have but for their violations of law during the Class Period.

17. Although ICE LIBOR was understood by investors to be “the interest rate high-credit quality banks charge one another for short-term financing,”¹³ the Defendants’ submissions and published rates did not include the credit, term, and liquidity premiums called for by the ICE LIBOR definition and thus did not reflect, and were substantially lower than, the Panel Bank Defendants’ true costs of borrowing. Comparisons between USD ICE LIBOR rates and submissions during the Class Period to the following three objective metrics show that the Panel Bank Defendants’ USD ICE LIBOR submissions and rates during the Class Period did not accurately reflect the Panel Bank Defendants’ true interbank costs of borrowing:

- Interest on Excess Reserves Paid by the Federal Reserve;
- General Collateral Rates; and
- Credit Default Swaps Spreads of the Panel Bank Defendants.

18. **ICE LIBOR was fixed below the floor set by the rate of interest on excess reserves.** Large U.S. and foreign banks, such as the Panel Bank Defendants, increasingly have been holding excess reserves as an alternative to interbank unsecured lending – and have been paid interest on excess reserves at a rate set by the Federal Reserve (“IOER”).

19. During the financial crisis in 2008, the Federal Reserve changed its longstanding rule and began paying interest on all reserves, including excess reserves. Prior to 2008, the

¹³ PIMCO, *Interest Rate Swaps*, <https://global.pimco.com/en-gbl/resources/education/understanding-interest-rate-swaps> (last visited Jan. 10, 2019).

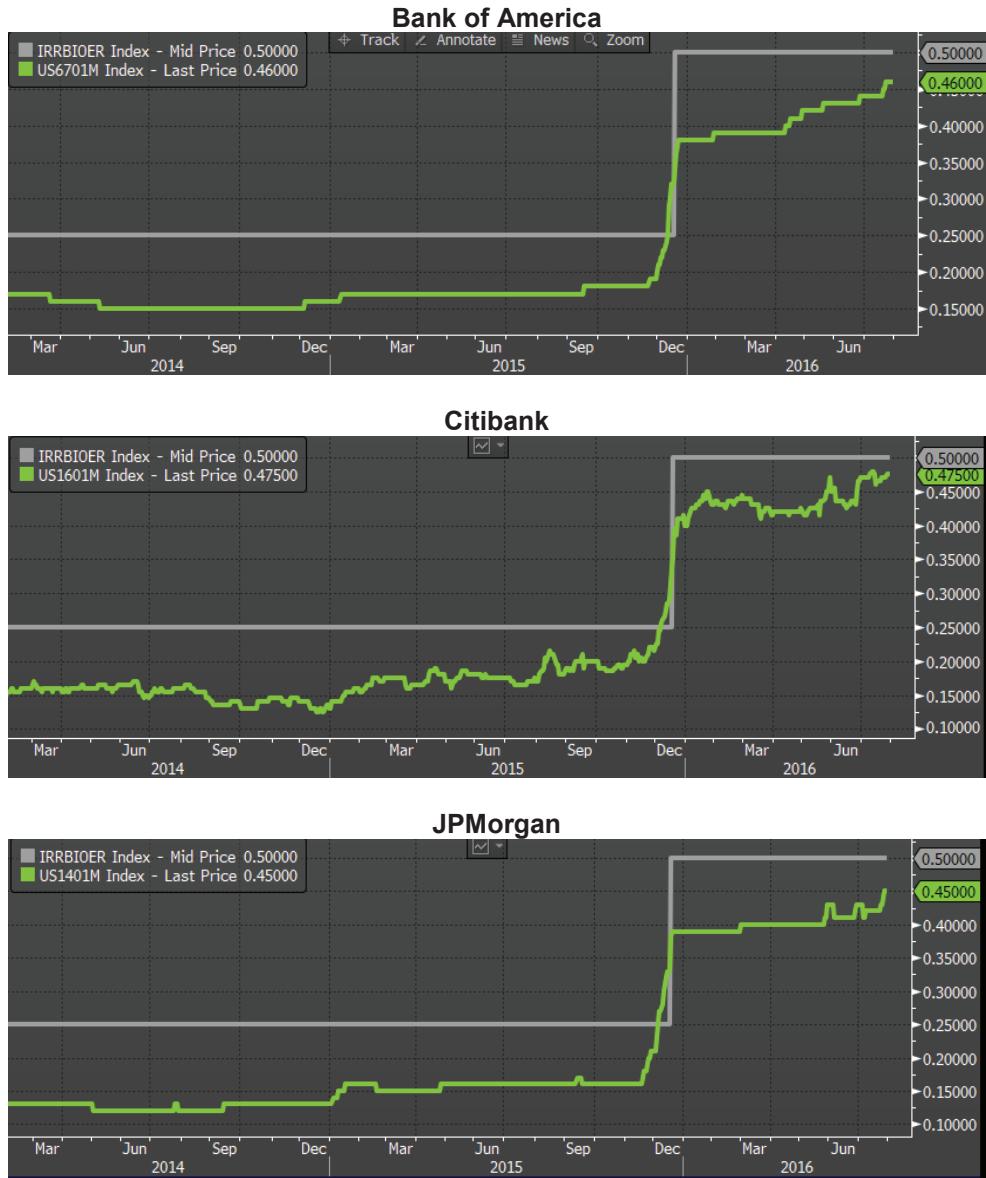
Federal Reserve did not pay interest on excess reserves. The interbank market was one of the primary outlets to which banks with excess reserves would turn by loaning funds to other banks on an unsecured, short-term basis.

20. With the Federal Reserve paying IOER, banks have ready access to risk-free, short-term interest on their excess reserves through the Federal Reserve. During the years since the Federal Reserve began paying interest on excess reserves and other post-crisis reforms were mandated, large banks, like the Panel Bank Defendants, have been holding cash in reserve rather than extending unsecured interbank loans.

21. IOER thus should be a floor for USD ICE LIBOR because a panel bank cannot expect to be able to borrow from a fellow panel bank on an unsecured basis at a rate lower than the rate from the cash that could be kept on excess reserves risk-free with the Federal Reserve.

22. The Panel Bank Defendants' individual submissions, however, were well below where they should have been in relation to IOER during the Class Period. For instance, nearly all 1-month LIBOR submissions were significantly below IOER nearly every day from February 1, 2014 (when ICE took over as administrator) through July 29, 2016 (the last date on which the Panel Bank Defendants' submissions are publicly available).¹⁴ The following charts illustrate this and compare the 1-month USD ICE LIBOR submissions of Bank of America, Citibank, and JPMorgan to IOER:

¹⁴ As of July 29, 2016, ICE and the Panel Bank Defendants stopped publishing individual bank submissions. *See Part VI, infra.*

1 MONTH USD ICE LIBOR SUBMISSIONS VS. IOER

23. Bank of America, Citibank, and JPMorgan each submitted unsecured term rates lower than risk-free overnight rates, which makes no sense if they were adhering to the ICE LIBOR definition. The 15 other Panel Bank Defendants, just like Bank of America, JPMorgan, and Citibank, also submitted rates lower than IOER. (Similar results of comparisons of the publicly available submissions of the other 15 Panel Bank Defendants to IOER are set forth in Section IV.E.1.a., *infra*).

24. The depressed submissions translated into depressed rates. To illustrate, the following chart compares USD ICE LIBOR to IOER from the same period and shows that rather than being above IOER, 1-month USD ICE LIBOR was actually nearly always below IOER:



25. **USD ICE LIBOR (an unsecured rate) was depressed relative to general collateral (secured) rates.** A comparison of USD ICE LIBOR submissions and rates to General Collateral (“GC”) rates also shows that USD ICE LIBOR submissions and rates did not reflect the Panel Banks’ true cost of funding and were lower than they should have been during the Class Period.

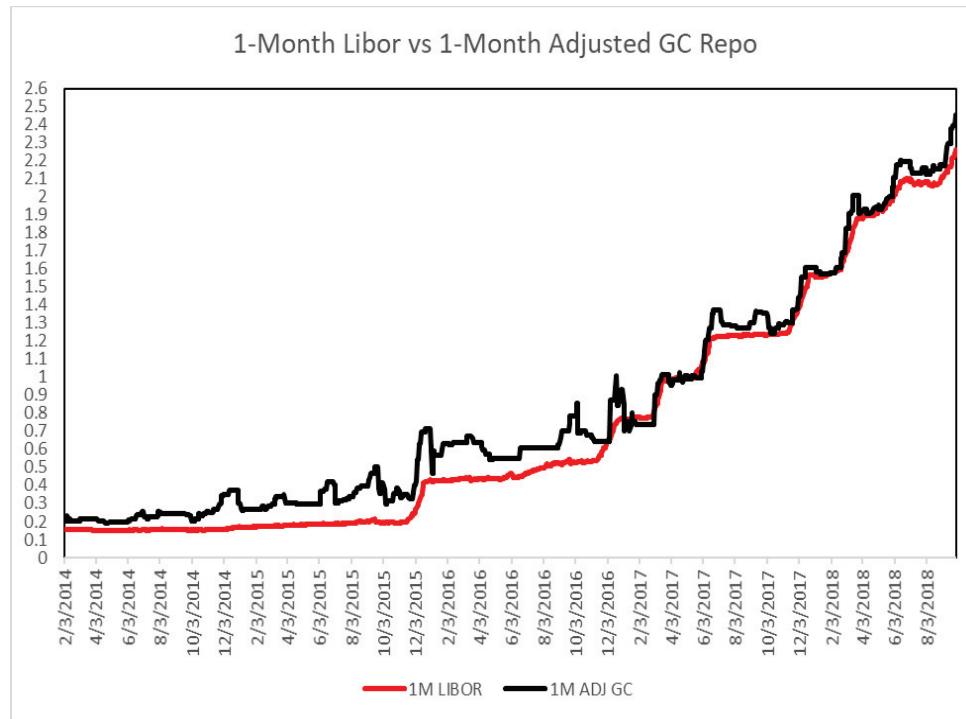
26. GC rates are benchmarks that represent average yields on repurchase agreements (“repos”) that use U.S. government securities as collateral. As secured rates, GC rates should be substantially lower than USD ICE LIBOR, which (purportedly) “indicates the interest rate that banks pay when they borrow on an unsecured basis.”¹⁵

27. At a minimum, the spread between GC and USD ICE LIBOR submissions should account for the capital requirements mandated by the Basel Accords, which assign a 20% risk

¹⁵ ICE, *ICE Benchmark Administration, LIBOR Code of Conduct*, ¶1.2, Issue 5 (June 18, 2018), https://www.theice.com/publicdocs/ICE_LIBOR_Code_of_Conduct.pdf.

weighting to interbank loans. This 20% risk-weighting for interbank loans – in contrast to the 0% risk-weighting for U.S. government securities – implies a significant minimum spread between GC and USD ICE LIBOR. However, USD ICE LIBOR rates were actually much closer, on average, to GC than the implied spread during the Class Period. Indeed, for all comparable tenors, the actual spread between USD ICE LIBOR and GC was less than the minimum implied by the risk-weighting assigned to interbank unsecured loans more than 80% of the time during the Class Period.

28. The following chart illustrates that even though USD ICE LIBOR should have been at, or above the level of adjusted 1-month GC, 1-month USD ICE LIBOR was consistently below 1-month adjusted GC during the Class Period:



29. **USD ICE LIBOR was stabilized relative to CDS spreads.** A comparison of the Panel Bank Defendants' respective Credit Default Swaps ("CDS") spreads relative to their

respective USD ICE LIBOR submissions also indicates that the Panel Bank Defendants' USD ICE LIBOR submissions did not reflect their true cost of borrowing during the Class Period.

30. A CDS is used to hedge and gauge the credit risk of companies, including banks such as the Panel Bank Defendants. During the Class Period, the Panel Bank Defendants' CDS spreads varied considerably over time corresponding to perceived creditworthiness. However, in contrast to their CDS spreads, the Panel Bank Defendants' USD ICE LIBOR submissions have been relatively flat over time, often with no discernible relation in their movements to contemporaneous movements in their CDS spreads. That is, even though the Panel Bank Defendants' individual and collective perceived creditworthiness should have been a component of USD ICE LIBOR submissions and rates, the contemporaneous data shows that they were not.

31. To illustrate, the chart below compares the one-year CDS spread of Panel Bank Defendant Deutsche Bank with its publicly available one-year USD ICE LIBOR submissions. Deutsche Bank was in such turmoil during 2016 that it was at times compared to Lehman Brothers during the 2008 financial crisis. This is reflected in the sharp and sustained spike in Deutsche Bank's one-year CDS spread during 2016 shown by the jagged white line on the chart below. However, as can be seen from the red (and relatively flat) line representing Deutsche Bank's one-year USD ICE LIBOR submissions during that same time, these events that plainly affected the market's view of Deutsche Bank's creditworthiness did not make their way into Deutsche Bank's contemporaneous USD ICE LIBOR submissions:

DEUTSCHE BANK CDS SPREADS AND USD ICE LIBOR SUBMISSIONS



(Similar results of comparisons of publicly available submissions of other Panel Bank Defendants to CDS spreads are set forth in Section IV.E.2.c., *infra*).

32. **USD ICE LIBOR submissions violate Benford's Law.** Not only did each of the 18 Panel Bank Defendants consistently make submissions lower than they should have during the Class Period resulting in lower overall rates, further analyses show that none of the 18 Panel Bank Defendants have been submitting these low rates legitimately. Rather, forensic tests show that all Panel Bank Defendants' submissions violate Benford's Law of distribution in digits in sets of data.

33. "Benford's Law" states that in sets of legitimately occurring data, each digit (*i.e.*, 1 through 9) should occur in certain predictable frequencies. "Benford Tests" are used as tools by investigators, including the Internal Revenue Service, and even certain Panel Bank Defendants, to detect whether or not particular sets of numbers include accounting irregularities and fictitious entries, such as when someone is suspected of "cooking the books" or otherwise fabricating data. Defendant Deutsche Bank, for instance, has observed that Benford's Law

“holds for global financial data and is robust over time.”¹⁶ In short, legitimately created financial data sets generally follow Benford’s Law – illegitimate data sets generally do not.

34. Benford Tests were performed on all publicly available published USD ICE LIBOR daily submissions and rates using the first digit of the day-to-day percentage differences for the 18 Panel Bank Defendants for each of five tenors (overnight, the 1-month, 3-month, 6-month, and 12-month) since ICE took over in February 2014.

35. Defendants flunked the tests. The test results for every Panel Bank Defendant show to a *statistical certainty of greater than 99%* that their submissions did not conform to Benford’s Law during the Class Period. The inescapable conclusion, particularly since there was not an active underlying interbank market on which to base their submissions and rates, is that Defendants manufactured them.

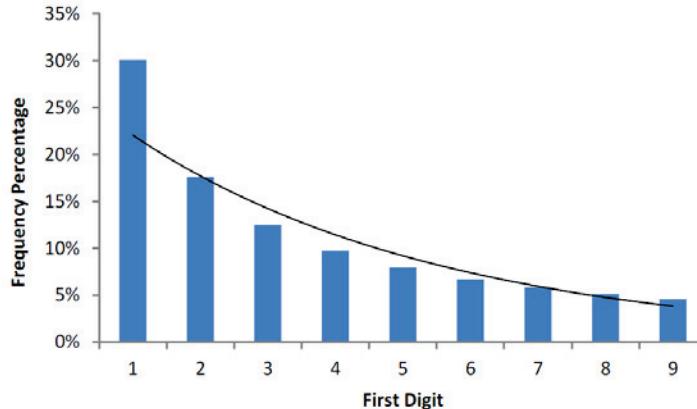
36. As depicted in the chart below taken from a Deutsche Bank investor communication promoting the applicability of Benford’s Law to financial data sets, digits in data sets conforming with Benford’s Law are distributed along a smooth and predictable pattern,¹⁷ sometimes called Benford’s curve:

¹⁶ Deutsche Bank Markets Research, *A Darwinian Approach to Detecting Accounting Irregularities* (Mar. 4, 2015), https://www.longfinance.net/media/documents/DB_SignalProcessing_2015.pdf.

¹⁷ *Id.*

BENFORD'S CURVE

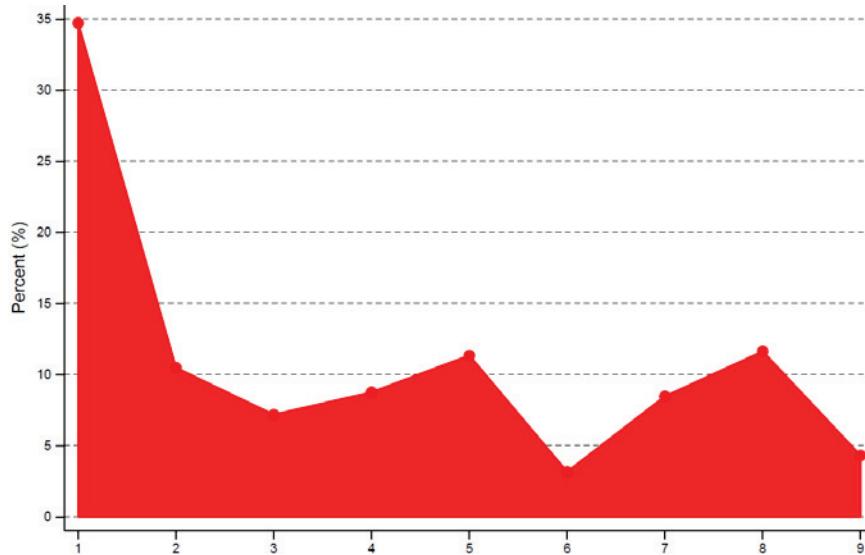
Figure 2: Theoretical distribution of the Benford's law



Source: Deutsche Bank Quantitative Strategy

37. The Panel Bank Defendants' USD ICE LIBOR submissions look nothing like this, however. The curve associated with UBS' aggregated data, on the first digit of its day-to-day percentage differences, for example, presents a particularly vivid illustration:

UBS' RESULTS



38. All of the foregoing strongly indicates that the depressed USD ICE LIBOR submissions and rates during the Class Period were the product of collusion. It is no mere

coincidence that all 18 panel banks submitted artificially low rates in parallel for now nearly five years. The Panel Bank Defendants submitted rates lower than they should have, as indicated by multiple objective measures, and violated Benford's Law. Defendants fundamentally corrupted the ICE LIBOR setting process, including by asserting the existence of an underlying funding market that "doesn't exist" and by submitting, accepting, and disseminating depressed rates contrary to the ICE LIBOR definition. All of this parallel misconduct was undertaken in the context of preexisting concerted action and other factual circumstances, or "plus factors," as used in antitrust analysis, which, when taken together, indicate that Defendants conspired to depress USD ICE LIBOR rates during the Class Period.

39. Multi-faceted Conspiracy Designed to profit on United States transactions linked to USD ICE LIBOR. The conspiracy had the purpose and effect of depressing payments to members of the Class by Panel Bank Defendants on financial instruments indexed to USD ICE LIBOR benchmark rates in the United States during the Class Period. Panel Bank Defendants worked together to accomplish their goal. Among other overt acts undertaken in furtherance of the conspiracy, some Panel Bank Defendants made depressed ICE LIBOR submissions to ICE that resulted in depressed USD ICE LIBOR rates. Some Panel Bank Defendants issued or otherwise directly transacted with members of the Class in financial instruments indexed to USD ICE LIBOR in the United States. Some Panel Bank Defendants had multiple roles, as did ICE, which participated in all aspects of the corrupt ICE LIBOR process.

40. Corruption of joint process. Defendants have been engaged in a joint process in setting USD ICE LIBOR. The joint process is concerted action that has been supposedly governed by rules put in place to ostensibly ensure that the final rate was representative of a competitive market. Defendants corrupted this joint process. While Defendants published a

number of documents setting forth rules and procedures designed to portray the rate-setting process as marked by independence and transparency, it was all window-dressing. Defendants ignored and circumvented rules governing the rate-setting process – including, most notably, the very definition of ICE LIBOR – and thus turned the joint process into collusion.

41. **Motive and opportunity to conspire.** The structural characteristics of the ICE LIBOR-setting process and ICE LIBOR have made profitable collusion feasible. USD ICE LIBOR was the dominant benchmark and Defendants dominated the benchmark rate. The submissions upon which the published rates were based were 100% within the collective discretion of the Panel Bank Defendants. As a result, the Panel Bank Defendants had the ability to consistently move the rate as they desired – if they worked together.

42. Directionally, the Panel Bank Defendants – including the persons on the funding desks charged with actually setting USD ICE LIBOR – had the incentive to depress USD ICE LIBOR. By way of example only, with hundreds of billions in floating rate issuances, the lower that USD ICE LIBOR was set, the lower the amount of floating interest that the Panel Bank Defendants were obligated to pay investors: every basis point (*i.e.*, 0.0001) movement in USD ICE LIBOR downward would save the Panel Bank Defendants more than \$100 million in payments on such notes over the Class Period.

43. In addition to the opportunity for manipulation created by the lack of an active underlying market, opportunity was provided by ICE, which hosted “a regular Panel Bank Forum,” for the Panel Bank Defendants to “discuss a range of topics” and “any agenda items requested by Benchmark Submitters.”¹⁸ These meetings were in addition to so-called “bilateral”

¹⁸ ICE Benchmark Administration, *Policy Composition of ICE LIBOR Currency Panels* (Dec. 2018), https://www.theice.com/publicdocs/Policy_Composition_ICE_LIBOR_Panels.pdf.

meetings and communications between ICE and each of the Panel Bank Defendants. The nature of the polling process meant that ICE and the Panel Bank Defendants communicated at least daily. Moreover, the Panel Bank Defendants constituted the leadership of numerous financial industry groups, including organizations dealing specifically with ICE LIBOR and financial products indexed to ICE LIBOR, in connection with which they would have engaged in countless interfirm communications.

44. ICE was a willing partner with the Panel Bank Defendants. If it came clean, there might have been no benchmark for it to administer. Benchmark administration is part of ICE's Data Services division, which ICE identifies as a significant component of its overall business. As ICE acknowledged in its Annual Report filed with the United States Securities and Exchange Commission:

Any failures or negative publicity resulting from our administration of LIBOR or other benchmarks could result in a loss of confidence in the administration of these benchmarks and could harm our business and our reputation.

The elimination of LIBOR or any other changes or reforms to the determination or supervision of LIBOR could have an adverse impact on our business, financial condition and operating results.¹⁹

45. ICE thus aided the Panel Bank Defendants by furthering the conspiracy. Despite having the information within its control from the beginning, ICE never disclosed the lack of interbank funding, particularly the lack of interbank funding underlying USD ICE LIBOR. Like the Panel Bank Defendants, but unlike the general public, ICE knew at least as of the time it officially took over, that there would not be enough interbank lending transactions to support USD ICE LIBOR.

¹⁹ Intercontinental Exchange, Inc., Annual Report at 29 (Form 10-k) (Feb. 7, 2018).

46. **Recidivism.** Another plus factor indicating collusion is the Panel Bank Defendants' history of antitrust violations, including not only rigging LIBOR prior to ICE taking over as administrator in February 2014, as well other "IBOR" rates in the past, but also other globally significant financial benchmarks with which they have been entrusted, including the daily WM-Reuters FX foreign currency exchange benchmark fixing, ISDAfix swap rate fixing, and the Silver and Gold daily fixings. The Panel Bank Defendants have paid billions collectively in criminal fines and civil penalties to U.S. and global enforcers as well as to resolve civil cases brought by investors stemming from government investigations of these and other schemes to manipulate systemically important financial benchmarks, products, and markets, during the past decade. Some have even pleaded guilty to federal felonies.²⁰

47. **Actions against unilateral self-interest.** It would have made no sense for each of the Panel Bank Defendants to consistently make depressed submissions unilaterally. Due to the nature of the ICE LIBOR fixing process, it would take the collective efforts of the group to consistently profit from their opportunity. Since the final published rate was an average of 16 to 18 Panel Bank Defendants' submissions, with the top and bottom four submissions excluded, it would not only be less effective, but often times futile, for one bank to make artificial submissions in hopes of manipulating USD ICE LIBOR. Moreover, unilateral attempts at manipulation meant the possibility of detection, while there was safety in numbers by staying together and using the public rate-setting process to facilitate collusive manipulation.

48. **No natural reaction to common stimuli.** Since Defendants' submissions failed Benford's Law, it is not credible that all 18 Panel Bank Defendants each submitted low rates in

²⁰ Department of Justice (DOJ), *Five Major Banks Agree to Parent-Level Guilty Pleas*, DOJ Press Release (May 20, 2015), <https://www.justice.gov/opa/pr/five-major-banks-agree-parent-level-guilty-pleas> (DOJ guilty pleas for Barclays, Citicorp, JPMorgan Chase, and RBS).

parallel for some legitimate reason. The reason that antitrust law calls for more than mere parallel conduct to infer conspiracy is because sometimes parallel behavior is a legitimate reaction to common stimuli. Here, not only were each of the Panel Bank Defendants' daily submissions across multiple tenors over multiple years depressed in parallel, they were – ***with 99% certainty*** – manufactured. If the depressed submissions and rates were arrived at legitimately, they would not have violated Benford's Law.

49. Taken together with their corruption of the joint rate-setting process and the plus factors articulated above – motive, opportunity, recidivism, and actions against unilateral self-interest – the violation of Benford's Law shows that the Panel Bank Defendants' parallel misconduct did not result from chance, coincidence, independent responses to common stimuli, or mere interdependence unaided by an advanced understanding among the parties; rather, it shows submissions resulting from collusion.

50. Financial regulators have emphasized in the aftermath of the financial crisis that “[a] benchmark can only be as robust as its underlying market.”²¹ It was “critical,” as the CFTC has put it, for USD ICE LIBOR submissions and rates, therefore, to “reflect an honest assessment of the costs of borrowing unsecured funds in the interbank markets.”²² However, USD ICE LIBOR submissions and rates did not reflect any such honest assessment, resulting in damages to investors in financial instruments indexed to USD ICE LIBOR during the Class Period.

²¹ Financial Stability Board, *Reforming Major Interest Rate Benchmarks*, at 13 (July 22, 2014), http://www.fsb.org/wp-content/uploads/r_140722.pdf?page_moved=1.

²² CFTC, *Opening Statement of Commissioner, Brian Quintenz, before the CFTC Market Risk Advisory Committee Meeting* (July 12, 2018), <https://www.cftc.gov/PressRoom/SpeechesTestimony/quintenzstatement071218>.

51. In the wake of recent disclosures, regulatory and industry efforts to replace ICE LIBOR with alternative benchmarks are underway. As stated by CFTC Chairman Giancarlo:

Simply put, money center banks no longer rely on unsecured inter-bank lending to finance their daily operations. As a result, LIBOR is a widely utilized benchmark that is no longer derived from a widely traded market. It is an enormous edifice built on an eroding foundation – an unsustainable structure.²³

52. According to Chairman Giancarlo the demise of LIBOR is inevitable: “LIBOR’s discontinuation of LIBOR is NOT something that MAY happen, but is something that WILL happen.”²⁴

53. Whether ICE LIBOR is eventually replaced, however, provides no remedy to investors in financial instruments tied to ICE LIBOR for damages already suffered as a result of ICE LIBOR being set at artificially low levels by Defendants during the Class Period.

54. Plaintiff brings this action for redress of the substantial injuries it and other similarly situated investors have suffered and continue to suffer as a result of Defendants’ violations of law.

II. PARTIES

A. Plaintiff

55. Plaintiff PUTNAM BANK (“Plaintiff”) is a Connecticut-charted capital stock savings bank, with its principal place of business at 40 Main Street, Putnam, Connecticut 06260.

56. During the Class Period, Plaintiff transacted directly with one or more Panel Bank Defendants in a USD ICE LIBOR Financial Instrument, as defined herein, including at least

²³ CFTC, *Opening Statement of Chairman J. Christopher Giancarlo before the Market Risk Advisory Committee Meeting, Washington, D.C.* (July 12, 2018), <https://www.cftc.gov/PressRoom/SpeechesTestimony/giancarlostatement071218>.

²⁴ *Id.* (emphasis in original).

Bank of America and JPMorgan. In particular, Plaintiff directly received from such Panel Bank Defendants payments based on interest at rates indexed to USD ICE LIBOR benchmark rates set during the Class Period.

57. Plaintiff was injured in its business or property as a direct, proximate, and material result of Defendants' violations of law.

58. Plaintiff is threatened with future injury to its business and property by reason of Defendants' continuing violations of law.

B. Defendants

1. ICE Defendants

59. Defendant Intercontinental Exchange, Inc. is a Delaware corporation with its principal place of business at 5660 New Northside Drive, Atlanta, Georgia 30328. Its common stock trades on the New York Stock Exchange under the ticker symbol "ICE."

60. Defendant Intercontinental Exchange Holdings, Inc. is a Delaware corporation registered to do business in New York with its principal place of business at 5660 New Northside Drive, Atlanta, Georgia 30328.

61. Defendant ICE Benchmark Administration Limited (f/k/a NYSE Euronext Rate Administration Limited) is a UK company with a registered address of Milton Gate, 60 Chiswell Street, London, EC1Y 4SA, United Kingdom. NYSE Euronext Rate Administration Limited was renamed ICE Benchmark Administration Limited after Intercontinental Exchange, Inc.'s acquisition of NYSE Euronext in 2013.²⁵ After the acquisition, four of NYSE Euronext's

²⁵ Gov.UK, *First day of business for new LIBOR administrator* (Feb. 3, 2014), <https://www.gov.uk/government/news/first-day-of-business-for-new-libor-administrator>.

directors joined ICE's 14 member board,²⁶ and the resulting company is dual-headquartered in Atlanta and New York.²⁷

62. Defendant ICE Data Services, Inc. ("ICE Data Services") is a Delaware corporation registered to do business in New York with a principal place of business located at 100 Church Street, 11th Floor, New York, New York 10007. ICE Data Services owns and operates the ICE Report Center, which houses USD ICE LIBOR data and with which registration is required to access certain USD ICE LIBOR rate and submission data from ICE.

63. Defendant ICE Pricing and Reference Data LLC ("ICE Pricing and Reference Data") is a Delaware company registered to do business in New York with a principal place of business located at 100 Church Street, 11th Floor, New York, New York 10007.

64. Unless stated otherwise, Defendants Intercontinental Exchange, Inc., Intercontinental Exchange Holdings, Inc., ICE Benchmark Administration Limited, ICE Data Services, ICE Pricing and Reference Data, and their subsidiaries, predecessors, and affiliates, are referenced collectively in this Complaint as "ICE" or the "ICE Defendants."

65. During the Class Period, the ICE Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States. The ICE Defendants are so intertwined that ICE Benchmark Administration Limited, which is supposed to be independent, is headquartered at the same London address as Intercontinental Exchange, Inc.'s London office.

²⁶ Yahoo! Finance, *ICE closes on \$11B acquisition of NYSE Euronext* (Nov. 13, 2013), <https://finance.yahoo.com/news/ice-closes-11b-acquisition-nyse-135835485.html>.

²⁷ ICE, *Intercontinental Exchange Completes Acquisition of NYSE Euronext* (Nov. 13, 2013), <https://ir.theice.com/press/press-releases/all-categories/2013/11-13-2013b>.

66. ICE was a co-conspirator with the Panel Bank Defendants and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. ICE has served as the administrator of ICE LIBOR since February 1, 2014. ICE publishes ICE LIBOR rates and related information in the United States, including in this District, via interstate wires to the investing public directly, as well as through third-party news services, such as Bloomberg and Reuters. ICE maintains the registered federal trademarks on ICE LIBOR® for use of the marks in U.S. commerce through Intercontinental Exchange Holdings, Inc., a U.S. subsidiary of Intercontinental Exchange, Inc. incorporated in Delaware and headquartered in Atlanta, Georgia.

67. ICE owns and operates the New York Stock Exchange, located in this District.

2. The Panel Bank Defendants

a. Bank of America Defendants

68. Defendant Bank of America Corporation (“BAC”) is a Delaware corporation with its principal place of business at 100 North Tryon Street, Charlotte, North Carolina 28202.

69. Defendant Bank of America N.A. (“BofA”) is a federally chartered national banking association with its principal place of business also at 100 North Tryon Street, Charlotte, North Carolina 28202.

70. Defendant Merrill Lynch, Pierce, Fenner & Smith Inc. (“BAML”) is a Delaware corporation with its principal place of business at One Bryant Park, New York, New York 10036.

71. Unless stated otherwise, BAC, BofA, and BAML, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Bank of America” or the “Bank of America Defendants.”

72. During the Class Period, the Bank of America Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

73. Each Bank of America Defendant was a co-conspirator and committed numerous overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Bank of America Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Bank of America Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Bank of America Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

b. Citibank Defendants

74. Defendant Citigroup Inc. (“Citi”) is a Delaware corporation with its principal place of business at 399 Park Avenue, New York, New York 10022.

75. Defendant Citibank, N.A. (“Citibank”) is a federally chartered national banking association headquartered at 399 Park Avenue, New York, New York 10022.

76. Defendant Citigroup Global Markets Inc. (“CGMI”) is a Delaware corporation headquartered at 390-388 Greenwich Street, New York, New York 10013.

77. Unless stated otherwise, Defendants Citi, Citibank, and CGMI, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Citibank” or the “Citibank Defendants.”

During the Class Period, the Citibank Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

78. Each Citibank Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Citibank Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. While at least one Citibank Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, at least one other Citibank Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

c. JPMorgan Defendants

79. Defendant JPMorgan Chase & Co. (“JPM”) is a Delaware corporation with its principal place of business at 270 Park Avenue, New York, New York 10017.

80. Defendant JPMorgan Chase Bank, N.A. (“JPMB”) is a federally-chartered national banking association headquartered at 270 Park Avenue, New York, New York 10017.

81. Defendant J.P. Morgan Securities LLC (“JPMS”) is a Delaware limited liability company with its principal place of business at 277 Park Avenue, New York, New York 11072.

82. Unless stated otherwise, Defendants JPM, JPMB, and JPMS, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “JPMorgan” or the “JPMorgan Defendants.”

83. During the Class Period, the JPMorgan Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

84. Each JPMorgan Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each JPMorgan Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. While at least one JPMorgan Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, at least one other JPMorgan Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

d. Barclays Defendants

85. Defendant Barclays plc is a U.K. public limited company with its principal place of business at 1 Churchill Place, London E14 5H, United Kingdom.

86. Defendant Barclays Bank plc (“Barclays Bank”) is a U.K. public limited company with its principal place of business at 1 Churchill Place, London E14 5H, United Kingdom, and operates a New York branch at 745 Seventh Avenue, New York, New York 10019.

87. Defendant Barclays Capital Inc. (“Barclays Capital”) is a Connecticut corporation with its principal place of business at 745 Seventh Avenue, New York, New York 10019.

88. Barclays Bank is licensed, supervised, and regulated to do business in this state by the NYSDFS. Barclays Bank is also regulated by the Board of Governors of the Federal Reserve

System. Barclays Bank is a provisionally registered dealer with the CFTC. Barclays Bank listed its New York branch as well as Barclays Capital as “Material Entities” in its FDIC Resolution Plan.²⁸

89. Unless stated otherwise, Barclays plc, Barclays Bank and Barclays Capital, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Barclays” or the “Barclays Defendants.”

90. During the Class Period, the Barclays Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

91. Each Barclays Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Barclays Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Barclays Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

e. BNP Paribas Defendants

92. Defendant BNP Paribas S.A. (“BNPP”) is a French Société Anonyme with its principal place of business at 16 Blvd. des Italiens, 75009 Paris, France, and operates a New York branch at 787 Seventh Avenue, New York, New York 10019.

²⁸ *Barclays PLC, 2018 U.S. Resolution Plan, Public Section*, Barclays (July 2018), <https://www.fdic.gov/regulations/reform/resplans/plans/barclays-165-1807.pdf>.

93. Defendant BNP Paribas Securities Corp. (“BNPS”) is a Delaware corporation with its principal place of business at 787 Seventh Avenue, New York, New York 10019.

94. BNPP is licensed, supervised, and regulated to do business in this state by the NYSDFS. BNPP is also regulated by the Board of Governors of the Federal Reserve System. BNPP considers its New York branch to be a Material Entity within the United States.²⁹ BNPP is a provisionally registered dealer with the CFTC.

95. Unless stated otherwise, Defendants BNPP and BNPS and their subsidiaries and affiliates, are referenced collectively in this Complaint as “BNP Paribas” or the “BNP Paribas Defendants.”

96. During the Class Period, the BNP Paribas Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

97. Each BNP Paribas Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each BNP Paribas Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one BNP Paribas Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one BNP Paribas Defendant directly issued, sold, or otherwise

²⁹ *BNP Paribas 165(d) Resolution Plan, Public Section*, BNP Paribas, at 3 (July 1, 2013), <https://www.federalreserve.gov/bankinforeg/resolution-plans/bnp-paribas-2g-20130701.pdf>.

transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

f. Credit Agricole Defendants

98. Defendant Crédit Agricole S.A. (“Credit Agricole SA”) is a French Société Anonyme with its principal place of business at 12 place des États-Unis, 92545 Montrouge Cedex, France.

99. Defendant Crédit Agricole Corporate and Investment Bank (“Credit Agricole CIB”) is organized and existing under the laws of France with its principal place of business at 9, Quai du Président Paul Doumer, 92920 Paris La Défense Cedex, France, and it operates a New York branch at Crédit Agricole Building, 1301 Avenue of the Americas, New York, New York 10019.

100. Defendant Crédit Agricole Securities (USA) Inc. (“Credit Agricole USA”) is a New York corporation with its principal place of business at Crédit Agricole Building, 1301 Avenue of the Americas, New York, New York 10019.

101. Credit Agricole CIB is licensed, supervised, and regulated by the NYSDFS. Credit Agricole CIB is a provisionally registered dealer with the CFTC. Credit Agricole CIB stated in its Resolution Plan with FDIC that “[t]he CACIB NY Branch is a branch of CACIB and, thus, is not a separate legal entity”, and is a Material Entity “significant to the activities of a critical operation or core business line.”³⁰ Credit Agricole CIB also listed Credit Agricole Securities (USA) Inc. as a Material Entity in its FDIC Resolution Plan.³¹

³⁰ *Crédit Agricole S.A. U.S. Resolution Plan, Public Section*, Crédit Agricole S.A., at 6 (Dec. 24, 2015), <https://www.fdic.gov/regulations/reform/resplans/plans/casa-165-1512.pdf>.

³¹ *Id.*

102. Unless stated otherwise, Defendants Credit Agricole SA, Credit Agricole CIB, and Credit Agricole USA, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Credit Agricole” or the “Credit Agricole Defendants.”

103. During the Class Period, the Credit Agricole Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

104. Each Credit Agricole Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Credit Agricole Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Credit Agricole Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Credit Agricole Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

g. Credit Suisse Defendants

105. Defendant Credit Suisse Group AG is a Swiss aktiengesellschaft with its principal place of business at 8 Paradeplatz, 8001 Zurich, Switzerland.

106. Defendant Credit Suisse AG is a Swiss aktiengesellschaft with its principal place of business at Ueltibergstrasse 231, 8070 Zurich, Switzerland, and it operates a New York branch located at Eleven Madison Avenue, 24th Floor, New York, New York 10010.

107. Defendant Credit Suisse Securities (USA) LLC (“Credit Suisse USA”) is a Delaware limited liability company with its principal place of business at Eleven Madison Avenue, 24th Floor, New York, New York 10010.

108. Credit Suisse AG is licensed, supervised, and regulated by the NYSDFS to do business in this state. Credit Suisse AG is also licensed and supervised by the Board of Governors of the Federal Reserve System. Credit Suisse AG listed its New York branch and Credit Suisse Securities (USA) LLC as a Material Legal Entities in its FDIC Resolution Plan.³² Credit Suisse AG listed Credit Suisse USA as a Material Legal Entity in its FDIC Resolution Plan.³³

109. Unless stated otherwise, Defendants Credit Suisse Group AG, Credit Suisse AG, and Credit Suisse Securities (USA) LLC, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Credit Suisse” or the “Credit Suisse Defendants.”

110. During the Class Period, the Credit Suisse Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

111. Each Credit Suisse Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Credit Suisse Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Credit Suisse Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for

³² Credit Suisse, 2018 U.S. Resolution Plan Public Section, Credit Suisse (June 28, 2018), <https://www.fdic.gov/regulations/reform/resplans/plans/creditsuisse-165-1807.pdf>.

³³ *Id.*

calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Credit Suisse Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

h. Deutsche Bank Defendants

112. Defendant Deutsche Bank AG (“DBAG”) is a German aktiengesellschaft with its principal place of business at Taunusanlage 12, Frankfurt, 60325, Germany and it operates a New York branch at 60 Wall Street, 4th Floor, New York, New York 10005.

113. Defendant Deutsche Bank Securities Inc. (“DBSI”) is a Delaware corporation with its principal place of business at 60 Wall Street, 4th Floor, New York, New York 10005.

114. DBAG considers its New York branch and Deutsche Bank Securities Inc. to be “Material Entities” within the United States.³⁴ DBAG is licensed, supervised, and regulated by the NYSDFS to do business in this state. DBAG is also registered with the Board of Governors of the Federal Reserve System. DBAG is a provisionally registered dealer with the CFTC.

115. Unless stated otherwise, Defendants DBAG and DBSI, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Deutsche Bank” or “Deutsche Bank Defendants.”

116. During the Class Period, the Deutsche Bank Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that

³⁴ *Deutsche Bank, U.S. Resolution Plan, July 2014 Submission, Section I: Public Section*, Deutsche Bank AG, at 4 (July 1, 2014), <https://www.fdic.gov/regulations/reform/resplans/plans/deutschebank-idi-1407.pdf>.

purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

117. Each Deutsche Bank Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Deutsche Bank Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Deutsche Bank Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Deutsche Bank Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

i. HSBC Defendants

118. Defendant HSBC Holdings plc (“HSH”) is a British public limited company with its principal place of business at 8 Canada Square, London, E14 5HQ, United Kingdom.

119. Defendant HSBC Bank plc (“HSB”) is a British public limited company with its principal place of business at 8 Canada Square, London, E14 5HQ, United Kingdom.

120. Defendant HSBC Bank USA, N.A. (“HSUS”) is a national banking association headquartered at HSBC Tower, 452 Fifth Avenue, New York, New York 10018.

121. Defendant HSBC Securities (USA) Inc. (“HSSUS”) is a Delaware corporation with its principal place of business at HSBC Tower, 452 Fifth Avenue, New York, New York 10018.

122. HSH is licensed and supervised by the Board of Governors of the Federal Reserve System and FDIC. HSH and HSB named HSUS as its “principal US banking subsidiary” and a Material Entity in its Federal Reserve Resolution Plan.³⁵

123. Unless stated otherwise, Defendants HSH, HSB, HSUS, and HSSUS, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “HSBC” or the “HSBC Defendants.”

124. During the Class Period, the HSBC Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

125. Each HSBC Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each HSBC Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one HSBC Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one HSBC Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

³⁵ *HSBS Bank USA, NA IDI Plan, Section I, Public Section*, HSBC, at 11 (July 2018), <https://www.fdic.gov/regulations/reform/resplans/plans/hsbc-idi-1807.pdf>.

j. Lloyds Defendants

126. Defendant Lloyds Bank plc is a British public limited company with registered offices at 25 Gresham Street, London EC2V 7HN, United Kingdom, and it operates a New York branch at 1095 Sixth Avenue, New York, New York 10036.

127. Defendant Lloyds Securities Inc. is a Delaware corporation headquartered at 1095 Sixth Avenue, New York, New York 10036.

128. Lloyds Bank plc is licensed, supervised, and regulated by the NYSDFS to do business in this state. Lloyds Bank plc listed its New York branch as a Material Entity in its FDIC Resolution Plan stating that it was “significant to the activities of a core business line or critical operation” and “the primary operating entity for LBG’s U.S. operations.”³⁶

129. Unless stated otherwise, Defendants Lloyds Bank plc and Lloyds Securities Inc., and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Lloyds” or the “Lloyds Defendants.”

130. During the Class Period, the Lloyds Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

131. Each Lloyds Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Lloyds Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one Lloyds Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for

³⁶ *Resolution Plan, Public Section*, Lloyds Banking Group, at 4 (Dec. 31, 2016), <https://www.fdic.gov/regulations/reform/resplans/plans/lloyds-165-1612.pdf>.

calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Lloyds Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

k. MUFG Defendants

132. Defendant MUFG Bank, Ltd. (“MUFG”) is a bank organized under the law of Japan with its principal place of business at 7-1, Marunouchi 2-chome Chiyoda-ku, Tokyo 100-8388, Japan. MUFG operates a New York branch at 1251 Sixth Avenue, New York, New York 10020.

133. Defendant The Bank of Tokyo-Mitsubishi UFJ Ltd. (“BTMU”) is a bank organized under the laws of Japan with its principal place of business at 7-1, Marunouchi 2-chome Chiyoda-ku, Tokyo 100-8388, Japan. BTMU operates a New York branch at 1251 Sixth Avenue, New York, New York 10020.

134. Defendant Mitsubishi UFJ Financial Group Inc. (“MUFG Group”) is a Japanese corporation with its principal place of business at 7-1, Marunouchi 2-chome Chiyoda-ku, Tokyo 100-8388, Japan.

135. Defendant MUFG Securities Americas Inc. is a Delaware corporation with its principal place of business at 1251 Sixth Avenue, New York, New York 10020.

136. MUFG is regulated by the Board of Governors of the Federal Reserve System. The New York branch was listed as a Material Entity in its FDIC resolution plan.³⁷ MUFG Group listed MUFG Securities Americas Inc. as a Material Entity in its FDIC Resolution Plan.³⁸

³⁷ *Public: Mitsubishi UFJ Financial Group, Inc., Resolution Plan*, MUFG, at 5, <https://www.fdic.gov/regulations/reform/resplans/plans/mufj-165-1412.pdf>.

137. Unless stated otherwise, MUFG, MUFG Group, BTMU, and MUFG Securities Americas Inc., and their subsidiaries and affiliates, are referenced collectively in this Complaint as “MUFG” or the “MUFG Defendants.”

138. During the Class Period, the MUFG Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

139. Each MUFG Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each MUFG Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one MUFG Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one MUFG Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

I. Norinchukin Defendant

140. Defendant The Norinchukin Bank (“Norinchukin”) is a Japanese bank organized and operated under the laws of Japan with its principal place of business at 1-12, Uchikanda 1-chome, Chiyoda-ku, Tokyo 101-0047, Japan, and it operates a New York branch located at 245 Park Avenue, Floor 21, New York, New York 10167.

³⁸

Id.

141. Norinchukin is licensed, supervised, and regulated by the NYSDFS to do business in this state. Norinchukin listed the New York branch as a Material Entity in its Federal Reserve Resolution Plan.³⁹ Norinchukin is regulated by the Board of Governors of the Federal Reserve System.

142. Norinchukin's website describes how the bank "built a global network using overseas sites," including offices in New York and London, which allow the bank to manage their "globally diversified investments."⁴⁰

143. Unless stated otherwise, The Norinchukin Bank and its subsidiaries and affiliates, are referenced collectively in this Complaint as "Norinchukin."

144. During the Class Period, Norinchukin operated in furtherance of the conspiracy and purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

145. Norinchukin was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Norinchukin engaged in suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. Norinchukin directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and it also directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

³⁹ *U.S. Resolution Plan, Section 1: Public Section*, The Norinchukin Bank, at 3 (Dec. 24, 2013), <https://www.federalreserve.gov/bankinforeg/resolution-plans/norinchukin-bk-3g-20131231.pdf>.

⁴⁰ *Pursuing stable profit as the ultimate manager of funds for JA Bank and JF Marine Bank*, The Norinchukin Bank, <https://www.nochubank.or.jp/en/about/business/investment.html> (last visited Jan. 14, 2019).

m. Rabobank Defendant

146. Defendant Coöperatieve Rabobank U.A. (“Rabobank”) is a bank organized under the laws of Netherlands with its principal place of business at Croeselaan 18, 3521 CB Utrecht, Netherlands, and operates a New York branch at 245 Park Avenue, 37th Floor, New York, New York 10167.

147. Rabobank is licensed, supervised, and regulated by the NYSDFS to do business in this state. Rabobank listed its New York branch as a Material Entity in its FDIC Resolution Plan.⁴¹ Rabobank is regulated by the Board of Governors of the Federal Reserve System.

148. Unless stated otherwise, Rabobank and its subsidiaries and affiliates, are referenced collectively in this Complaint as “Rabobank.”

149. During the Class Period, Rabobank operated in furtherance of the conspiracy and purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

150. Rabobank was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Rabobank engaged in suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. Rabobank directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and it directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

⁴¹ *U.S. Resolution Plan, Public Section*, Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. (Rabobank Nederland), at 4 (Dec. 14, 2015), <https://www.fdic.gov/regulations/reform/resplans/plans/ccrb-165-1512.pdf>.

n. RBC Defendants

151. Defendant Royal Bank of Canada (“RBC”) is a chartered Schedule I Bank under the Canada Bank Act with its principal place of business at 200 Bay Street, Toronto, Ontario M5J 2J5, Canada, and it operates a New York branch at Three World Financial Center, 200 Vesey Street, 8th Floor, New York, New York 10281.

152. Defendant RBC Capital Markets, LLC (“RBC Capital”) is a Minnesota limited liability company with its principal place of business and headquarters located at Three World Financial Center, 200 Vesey Street, 8th Floor, New York, New York 10281.

153. Royal Bank of Canada listed its New York branch as a Material Entity “that is significant to the activities of a critical operation or core business” in its FDIC Resolution Plan.⁴² RBC is regulated by the Board of Governors of the Federal Reserve System.

154. RBC listed RBC Capital as a Material Entity “that is significant to the activities of a critical operation or core business” in its FDIC Resolution Plan.⁴³

155. Unless stated otherwise, Royal Bank of Canada and RBC Capital, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “RBC” or the “RBC Defendants.”

156. During the Class Period, the RBC Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

⁴² *U.S. Resolution Plan, Section I – Public Section*, Royal Bank of Canada, at 5 (Dec. 2015), <https://www.fdic.gov/regulations/reform/resplans/plans/rbc-165-1512.pdf>.

⁴³ *Id.*

157. Each RBC Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each RBC Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one RBC Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one RBC Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

o. RBS Defendants

158. Defendant Royal Bank of Scotland Group plc (“Royal Bank of Scotland Group”) is a United Kingdom public limited company with its principal place of business at 1000 Gogarburn, Edinburgh, EH12 1HQ, Scotland.

159. Defendant Royal Bank of Scotland plc (“Royal Bank of Scotland”) is a United Kingdom public limited company with its principal place of business located at 36 St. Andrew Square, Edinburgh, EH2 2YB, Scotland, and it operates a Connecticut branch located at 600 Washington Boulevard, Stamford, Connecticut 06901. During the Class Period, Royal Bank of Scotland maintained a branch at 600 Washington Boulevard, Stamford, Connecticut 06901.

160. Defendant National Westminster Bank plc (“Natwest”) is a U.K. public limited company with its principal place of business at 135 Bishopsgate, London, EC2M 3UR, United Kingdom. During the Class Period, Natwest was a member of the USD ICE LIBOR Panel.

161. Defendant Natwest Markets Securities Inc. (f/k/a RBS Securities Inc.) (“Natwest Securities”) is a Delaware corporation with its principal place of business at 600 Washington Boulevard, Stamford, Connecticut 06901.

162. Royal Bank of Scotland is regulated by the Board of Governors of the Federal Reserve System and is registered with CFTC. Royal Bank of Scotland listed its Connecticut branch as a Material Entity in its FDIC Resolution Plan.⁴⁴

163. Unless stated otherwise, Royal Bank of Scotland Group, Royal Bank of Scotland, Natwest, and Natwest Securities, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “RBS” or the “RBS Defendants.”

164. During the Class Period, the RBS Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

165. Each RBS Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each RBS Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. At least one RBS Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one RBS Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

p. Societe Generale Defendants

166. Defendant Société Générale S.A. is a French Société Anonyme with its principal place of business at 29, Boulevard Haussmann, 75009 Paris, France. During the Class Period,

⁴⁴ *Public Section The Royal Bank of Scotland Group plc Resolution Plan*, RBS, at i-6, <https://www.fdic.gov/regulations/reform/resplans/plans/rbs-165-1512.pdf>.

Société Générale S.A. was a member of the USD ICE LIBOR Panel. Societe Generale S.A. maintains a New York branch at 245 Park Avenue, New York, New York 10167.

167. Defendant SG Americas Securities, LLC (“SG Americas”) is a Delaware limited liability company, with its principal place of business at 245 Park Avenue, New York, New York 10167.

168. Société Générale S.A. listed its New York branch as a Material Entity through which its Global Banking and Investor Solutions core business is conducted in its Federal Reserve Resolution Plan.⁴⁵ Société Générale S.A.’s New York branch is licensed, supervised, and regulated by the NYSDFS to do business in this state.

169. Société Générale S.A. listed SG Americas as a Material Entity through which its core business is conducted in its Federal Reserve Resolution Plan.⁴⁶

170. Unless stated otherwise, Defendants Société Générale S.A., SG Americas, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Societe Generale” or the “Societe Generale Defendants.”

171. During the Class Period, the Societe Generale Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

172. Each Societe Generale Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Societe Generale Defendant engaged in one or more types of suit-related conduct in or

⁴⁵ 2015 U.S. Resolution Plan, Société Générale, at 2-3, <https://www.federalreserve.gov/bankinforeg/resolution-plans/societe-generale-3g-20151231.pdf>.

⁴⁶ *Id.*

purposefully directed toward the United States and this District during the Class Period. At least one Societe Generale Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, and at least one Societe Generale Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

q. Sumitomo Defendants

173. Defendant Sumitomo Mitsui Banking Corporation is a bank organized under the laws of Japan with its principal place of business at 1-1-2, Marunouchi, Chiyoda-ku, Tokyo, Japan, and it operates a New York branch at 277 Park Avenue, New York, New York 10172.

174. Defendant Sumitomo Mitsui Financial Group Inc. is a Japanese corporation organized under the laws of Japan with its principal place of business at 1-1-2, Marunouchi, Chiyoda-ku, Tokyo, Japan.

175. Defendant Sumitomo Mitsui Banking Corporation Europe Ltd. is a U.K. public limited company with its principal place of business at Temple Court, 11 Queen Victoria Street, London, EC4N 4TA, United Kingdom.

176. SMBC Capital Markets, Inc. is a Delaware corporation with its principal place of business at 277 Park Avenue, New York, New York 10172.

177. Sumitomo Mitsui Banking Corporation’s New York branch is licensed, supervised, and regulated by the NYSDFS to do business in this state. Sumitomo listed its New York branch as a Material Entity in its Federal Reserve Resolution Plan.⁴⁷

178. Sumitomo listed SMBC Capital Markets as a Material Entity that is “significant to the activities of a critical operation or core business line” in its Federal Reserve Resolution Plan.⁴⁸

179. Unless stated otherwise, Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Financial Group Inc., Sumitomo Mitsui Banking Corporation Europe Ltd., and SMBC Capital Markets, Inc., and their subsidiaries and affiliates, are referenced collectively in this Complaint as “Sumitomo” or the “Sumitomo Defendants.”

180. During the Class Period, the Sumitomo Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

181. Each Sumitomo Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each Sumitomo Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. While at least one Sumitomo Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the

⁴⁷ *U.S. Resolution Plan, Public Section*, SMFG, at 4 (Dec. 31, 2014), <https://www.federalreserve.gov/bankinforeg/resolution-plans/sumitomo-mitsui-fin-3g-20141231.pdf>.

⁴⁸ *Id.*

United States, at least one other Sumitomo Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

r. UBS Defendants

182. Defendant UBS Group AG is a Swiss aktiengesellschaft with principal places of business at 45 Bahnhofstrasse, Zurich CH-8098, Switzerland and 1 Aeschenvorstadt, Basel CH-4051, Switzerland.

183. Defendant UBS AG is a Swiss aktiengesellschaft with principal places of business at 45 Bahnhofstrasse, Zurich CH-8098, Switzerland and 1 Aeschenvorstadt, Basel CH-4051, Switzerland and it operates a Connecticut Branch at 677 Washington Boulevard, Stamford, Connecticut 06901.

184. Defendant UBS Securities LLC (“UBS Securities”) is a Delaware limited liability company with its principal place of business at 1285 Avenue of the Americas, New York, New York 10019.

185. UBS maintains branches in several U.S. states, including Connecticut, Illinois, Florida, and New York, with its headquarters in New York and Stamford, Connecticut. UBS is registered with the Office of the Comptroller of the Currency (“OCC”), is licensed and supervised by the Board of Governors of the Federal Reserve System, and is registered with the CFTC. UBS Group AG listed both its Connecticut and New York branches as Material Entities in its FDIC Resolution Plan.⁴⁹

⁴⁹ 2018 U.S. Resolution Plan, Public Section, UBS Group AG at 10, <https://www.fdic.gov/regulations/reform/resplans/plans/ubs-165-1807.pdf>.

186. UBS Group AG listed UBS Securities LLC as a Material Entity in its FDIC Resolution Plan.⁵⁰

187. Unless stated otherwise, Defendants, UBS Group AG, UBS AG, and UBS Securities LLC, and their subsidiaries and affiliates, are referenced collectively in this Complaint as “UBS.”

188. During the Class Period, the UBS Defendants shared a unity of corporate interest and operated as part of a single enterprise in furtherance of the conspiracy that purposefully directed conduct causing injury to and derived direct benefit from members of the Class in the United States.

189. Each UBS Defendant was a co-conspirator and committed overt acts in furtherance of the conspiracy alleged herein in the United States and this District. Each UBS Defendant engaged in one or more types of suit-related conduct in, or purposefully directed toward, the United States and this District during the Class Period. While at least one UBS Defendant directed U.S.-denominated ICE LIBOR submissions to U.S.-based ICE for calculation, publication, dissemination, and use of USD ICE LIBOR rates in USD ICE LIBOR Financial Instruments issued, sold, or otherwise transacted in by members of the Class in the United States, at least one other UBS Defendant directly issued, sold, or otherwise transacted in such USD ICE LIBOR Financial Instruments with members of the Class in the United States.

3. Agents, Affiliates, and Co-conspirators

190. “Defendants,” as used herein, refers to and includes each of the named Defendants’ predecessors, successors, parents, wholly-owned or controlled subsidiaries or affiliates, employees, officers, and directors.

⁵⁰ *Id.*

191. Whenever reference is made to any act, deed, or transaction of any corporation or partnership, the allegation means that the corporation or partnership engaged in the act, deed, or transaction by or through its officers, directors, agents, employees, representatives, parent, predecessors or successors-in-interest while they were actually engaged in the management, direction, control, or transaction of business or affairs of the corporation or partnership.

192. Various other persons, firms, and corporations, that are unknown and not named as Defendants herein, have participated as co-conspirators with Defendants and have performed acts or made statements in furtherance of the conspiracy. Each of the Defendants named herein acted as the agent or joint-venturer of or for the other Defendants with respect to the acts, violations, and common course of conduct alleged herein. Defendants are jointly and severally liable for the acts of their co-conspirators whether named or not named as Defendants in this Complaint.

III. JURISDICTION, VENUE, AND COMMERCE

193. This action arises under Section 1 of the Sherman Antitrust Act, 15 U.S.C. §1, and Sections 4 & 16 of the Clayton Antitrust Act, 15 U.S.C. §§15 & 26.

194. This Court has federal question subject matter jurisdiction under 28 U.S.C. §§1331, 1332(d), and 1337.

195. The Court has supplemental jurisdiction under 28 U.S.C. §1337 over Plaintiff's claims brought under State law.

196. Venue is proper in this District under 15 U.S.C. §§15(a) & 22, and 28 U.S.C. §1391(b), (c) and (d), because during the Class Period, Defendants resided, transacted business, were found, or had agents in the United States, including in this District, and a substantial portion of the alleged activity affected interstate trade and commerce, including in this District. Each of the Panel Bank Defendants, either directly or through their controlled subsidiaries or

affiliates, issued, marketed, sold, or otherwise transacted in financial instruments indexed to USD ICE LIBOR in the United States, including in this District, with investors, including Plaintiff and the members of the Class; such conduct furthered Defendants' conspiracy to profit from depressed USD ICE LIBOR rates during the Class Period.

197. Defendants' conspiracy and conduct was within the flow of, was intended to, and did, in fact, have a substantial effect on the interstate commerce of the United States. During the Class Period, Defendants used the instrumentalities of interstate commerce, including interstate wires, in furtherance of their illegal scheme.

198. Defendants' conspiracy and conduct alleged herein has been in U.S. import commerce, or has had a direct, substantial, and reasonably foreseeable effect on U.S. domestic commerce, and such effect gives rise to the claims of Plaintiff and members of the Class, within the meaning of the Foreign Trade Antitrust Improvements Act of 1982, 15 U.S.C. §6a.

199. This Court has personal jurisdiction over each Defendant because each Defendant transacted business, maintained substantial contacts, is located, or they or their co-conspirators committed overt acts in furtherance of their illegal conspiracy, in the United States, including in this District. Specifically, each Defendant purposefully availed themselves of the privilege of doing business in the State of New York and the United States by issuing, marketing, selling, and otherwise transacting in financial instruments indexed to USD ICE LIBOR in the United States, including with Plaintiff and members of the Class, while secretly manipulating USD ICE LIBOR in their favor. Defendants' misconduct was purposefully directed at the United States and was specifically intended to affect the prices of, and payments due under, Defendants' transactions with U.S. investors. Defendants' acts were also acts in furtherance of the conspiracy that, because they occurred in the United States by Defendants' domestic entities, provide specific

personal jurisdiction over all conspirators.

200. The conspiracy and overt acts taken in furtherance were directed at, and had the intended effect of, causing injury to persons residing in, located in, or doing business in the United States, including in this District.

201. Numerous overt acts in furtherance of the conspiracy occurred in the United States, including within this District.

202. During the Class Period, all Panel Bank Defendants, both foreign and domestic, engaged in conduct within the United States related to Plaintiff's allegations. The Panel Bank Defendants transacted in USD ICE LIBOR Financial Instruments with United States residents while conspiring to manipulate ICE LIBOR to garner supracompetitive profits.

203. Plaintiff alleges a profit-motivated conspiracy. As members of the conspiracy, foreign-based Panel Bank Defendants are liable for acts taken in furtherance of the conspiracy by domestic Panel Bank Defendants, as well as their own actions taken in the United States, and personal jurisdiction attaches, regardless of whether some portion of the conduct in furtherance of the conspiracy might have occurred overseas.

204. As detailed above and throughout the Complaint, the Panel Bank Defendants purposefully availed themselves of the privilege of doing business in this jurisdiction and should, therefore, have foreseen the possibility of being brought before this Court to answer for any illegal acts related to their business conducted here.

205. The Court has jurisdiction over Defendants under New York's Long-Arm Statute, N.Y. C.P.L.R. §302, because Defendants are present and transact business in New York State; each Defendant had substantial contacts with New York State; each Defendant committed overt acts in furtherance of Defendants' conspiracy in New York State; each Defendant is an agent of

the other Defendants; and Defendants' conspiracy was directed at, and had the intended effect of, injury to persons residing in, located in, or doing business in New York State.

206. At least the following Defendants are domestic entities that are incorporated in New York or which have their respective headquarters in New York: Citigroup Inc., Citibank, N.A., Citigroup Global Markets Inc., JPMorgan Chase & Co., JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, Barclays Capital Inc., BNP Paribas Securities Corp., Crédit Agricole Securities (USA) Inc., Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., HSBC Bank USA, N.A., HSBC Securities (USA) Inc., ICE Data Services, Inc., ICE Pricing and Reference Data LLC, Lloyds Securities Inc., Merrill Lynch, Pierce, Fenner & Smith Inc., MUFG Securities Americas Inc., RBC Capital Markets, LLC, SG Americas Securities, LLC, SMBC Capital Markets, Inc., and UBS Securities LLC.

207. At least the following Defendants are domestic entities headquartered outside of New York that transact substantial business in New York, including by participating in the USD ICE LIBOR process or transacting in USD ICE LIBOR Financial Instruments: Bank of America Corporation, Bank of America N.A., Intercontinental Exchange, Inc., Intercontinental Exchange Holdings, Inc., and Natwest Markets Securities Inc.

208. At least the following Defendants are foreign entities that transact substantial business in New York, including by participating in the USD ICE LIBOR process or transacting in USD ICE LIBOR Financial Instruments: Barclays plc, Barclays Bank plc, BNP Paribas SA, Crédit Agricole S.A., Crédit Agricole Corporate and Investment Bank, Credit Suisse Group AG, Credit Suisse AG, Deutsche Bank AG, HSBC Holdings plc, HSBC Bank plc, Lloyds Bank plc, MUFG Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ Ltd., Mitsubishi UFJ Financial Group, Inc., The Norinchukin Bank, Coöperatieve Rabobank U.A., Royal Bank of Canada, Royal Bank

of Scotland Group plc, Royal Bank of Scotland plc, National Westminster Bank plc, Société Générale S.A., Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Financial Group, Inc., UBS Group AG, and UBS AG.

209. The Terms of Use of the ICE website, which contains information about USD ICE LIBOR, and which is incorporated into the Terms and Conditions of the ICE Data Center, which houses USD ICE LIBOR submissions and rate data, provides: “You agree to submit to the exclusive jurisdiction and venue of the state and federal courts located in New York County, New York.”

IV. ALLEGATIONS OF FACT

210. “ICE LIBOR is the primary benchmark for short term interest rates globally.”⁵¹ As a financial benchmark interest rate, ICE LIBOR determines the actual interest rate paid or received on financial instruments to which it is indexed. Approximately \$200 trillion in financial instruments are indexed to USD ICE LIBOR.

211. ICE LIBOR is set jointly and published to the investing public by ICE and the Panel Bank Defendants. By definition, ICE LIBOR “provides the average rate at which a LIBOR panel bank could obtain unsecured funding for a given period in a given currency.”⁵²

212. Financial regulators have emphasized in the aftermath of the financial crisis that “[a] benchmark can only be as robust as its underlying market.”⁵³ Being that ICE LIBOR is “the

⁵¹ ICE, *Roundtable Discussion on Evolution of ICE LIBOR, Agenda for Meeting at Swiss National Bank*, at 5 (Sept. 29, 2015), https://www.swiss-treasurer.ch/wp-content/uploads/2015/06/LIBOR-Round-Table-Meeting-Agenda-29092015_SNB_final.pdf.

⁵² ICE, *ICE LIBOR IOSCO Assessment Report*, at 1 (Aug. 2017), https://www.theice.com/publicdocs/LIBOR_IOSCO_Self_Assessment_August_2017.pdf.

⁵³ FSB, *Reforming Major Interest Rate Benchmarks, supra*, at 13.

primary benchmark,”⁵⁴ it is “critical,” as the CFTC puts it, that ICE LIBOR rates and submissions “reflect an honest assessment of the costs of borrowing unsecured funds in the interbank markets.”⁵⁵

213. During the Class Period, however, ICE LIBOR and ICE LIBOR submissions – specifically, USD ICE LIBOR and USD ICE LIBOR submissions – did not reflect any such honest assessment, resulting in damages to investors in financial instruments indexed to USD ICE LIBOR, such as Plaintiff and members of the Class.

A. USD ICE LIBOR Rates Were Jointly Set and Disseminated in the United States for Incorporation into Domestic Transactions with U.S. Residents During the Class Period by the Concerted Action of Defendants

1. The Panel of Banks and the Administrator that Depressed USD ICE LIBOR Submissions and Rates

214. “ICE LIBOR rates are the end-product of a calculation based upon submissions from LIBOR contributor banks.”⁵⁶ There is a panel of banks for each of the five ICE LIBOR currencies: US Dollars (“USD”), Pounds Sterling (“GBP”), Euros (“EUR”), Japanese Yen (“JPY”), and Swiss Franc (“CHF”).⁵⁷

215. As reflected in the following excerpt from a 2015 presentation by ICE to Swiss regulators,⁵⁸ there is considerable overlap between the memberships of the USD panel and other panels:

⁵⁴ ICE, Roundtable Discussion on Evolution of ICE LIBOR, *supra*, at 5.

⁵⁵ Quintenz’s Opening Statement, *supra*.

⁵⁶ ICE, Roundtable Discussion on Evolution of ICE LIBOR, *supra*, at 5.

⁵⁷ ICE LIBOR IOSCO Assessment Report, *supra*, at 15.

⁵⁸ ICE, Roundtable Discussion on Evolution of ICE LIBOR, *supra*, at 5.

Bank	USD	GBP	EUR	CHF	JPY
Bank of America	o				
Bank of Tokyo-Mitsubishi	o	o	o	o	o
Barclays Bank	o	o	o	o	o
BNP Paribas	o	o			
Citibank	o	o	o	o	
Credit Agricole	o	o			o
Credit Suisse	o		o	o	
Deutsche Bank	o	o	o	o	o
HSBC	o	o	o	o	o
JP Morgan	o	o	o	o	o
Lloyds Bank	o	o	o	o	o
Mizuho Bank		o	o		o
Rabobank	o	o	o		
Royal Bank of Canada	o	o	o		
Santander		o	o		
Societe Generale	o	o	o	o	o
Sumitomo Mitsui Bank	o				o
The Norinchukin Bank	o				o
Royal Bank of Scotland	o	o	o	o	o
UBS	o	o	o	o	o

216. Defendants Bank of America, Citigroup, JPMorgan, Barclays, BTMU, Credit Agricole, Credit Suisse, Deutsche Bank, HSBC, Lloyds, Norinchukin, Rabobank, RBC, RBS, Sumitomo, and UBS each had one of their controlled entities serve as members of the USD panel during the entire Class Period. According to the current ICE website Defendants BNP Paribas and Societe Generale no longer have one of their affiliated entities on the USD panel, though they remain on other ICE LIBOR panels.

217. ICE has published a policy indicating the “criteria” for ICE LIBOR panel membership.⁵⁹ The stated “objective of the policy is to have a panel of participants that are active in the unsecured interbank deposit and other related markets.”⁶⁰

⁵⁹ ICE, Policy Composition of ICE LIBOR Currency Panels, *supra* (cited in ICE LIBOR IOSCO Assessment Report, *supra*).

⁶⁰ *Id.*

218. In addition to being “active” in “unsecured interbank deposit[s],” ICE cites “perceived expertise” and “reputation and creditworthiness” as criteria by which it purportedly assesses panel membership.⁶¹

2. The Submission Question and Responses that Facilitated Depressed ICE LIBOR Submissions and Rates

219. Each business day, the Panel Bank Defendants submit rates to ICE in response to the ICE LIBOR “Submission Question,” which asks the individual Panel Bank Defendants to answer the following question each business day:

At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11am?⁶²

220. According to ICE, “each submission” in response to this question is “a subjective determination of the rate at which a given Panel Bank could transact.”⁶³ Thus, the “definition appears to narrowly prescribe 11 a.m. interbank deposits as the basis for submissions,”⁶⁴ and “links the figures submitted by Contributor Banks to their own market activity, rather than a hypothetical entity.”⁶⁵

221. Each ICE LIBOR currency has seven tenors: “Overnight/Spot Next; 1 Week; 1 Month; 2 Months; 3 Months; 6 Months and 12 Months.”⁶⁶ The Panel Bank Defendants are thus supposed to “send IBA the rate at which they believe they could borrow funds in a currency for

⁶¹ *Id.*

⁶² ICE LIBOR Overview, *supra*.

⁶³ ICE LIBOR Evolution, *supra*, at 4.

⁶⁴ IOSCO, *Review of the Implementation of IOSCO’s Principles for Financial Benchmarks by Administrators of Euribor, Libor and Tibor*, at 87 (July 2014), http://www.fsb.org/wp-content/uploads/r_140722a.pdf.

⁶⁵ *Id.* at 86.

⁶⁶ ICE LIBOR Benchmark Statement, *supra*, at 1.

each of the seven tenors.”⁶⁷ For example, USD ICE LIBOR, by definition, “measures how expensive it is for a large bank to borrow U.S. dollars in the unsecured interbank market at different maturities.”⁶⁸

3. The Depressed USD ICE LIBOR Rates Resulted from Depressed ICE LIBOR Submissions

222. The Panel Bank Defendants submit their daily responses to ICE between 11:05 a.m. and 11:39:59 a.m. London time.⁶⁹ ICE purports to calculate each ICE LIBOR rate of the five currencies and seven tenors using a “trimmed arithmetic mean.”⁷⁰ To illustrate, on any given day, the 16 members of the USD ICE LIBOR panel each submit to ICE their 3-month rates. ICE then discards the top four and bottom four submissions, and calculates the average of the remaining eight submissions to arrive at the ICE LIBOR rate.

4. The Depressed USD ICE LIBOR Rates Published in the United States for Incorporation into Financial Instruments Transacted in the United States

223. ICE publishes ICE LIBOR to the market at approximately 11:55 a.m. London time each business day. The current daily ICE LIBOR rates are carried in all major business publications, such as *The Wall Street Journal* and *Financial Times*, as well as on financial information services, such as Reuters and Bloomberg, where ICE LIBOR has its own dedicated and widely referenced “screens.”

⁶⁷ ICE LIBOR IOSCO Assessment Report, *supra*, at 15.

⁶⁸ William C. Dudley, President and Chief Executive Officer, *Restoring Confidence in Reference Rates*, FEDERAL RESERVE BANK OF NEW YORK (Oct. 2, 2014), <https://www.newyorkfed.org/newsevents/speeches/2014/dud141002>.

⁶⁹ ICE Code of Conduct, Issue 5, *supra*, ¶4.7.

⁷⁰ ICE, Roundtable Discussion on Evolution of ICE LIBOR, *supra*, at 5.

224. Financial instruments indexed to USD ICE LIBOR often define USD ICE LIBOR by reference to “Reuters Screen LIBOR01,” in accord with definitions published by the International Swaps and Derivatives Association (“ISDA”), which is a leading standard setting association in the financial services industry, over which the Panel Bank Defendants exercise substantial influence and control. The 2006 ISDA Definitions provide: ““USD-LIBOR-BBA’ means that the rate for a Reset Date will be the rate for deposits in U.S. Dollars for a period of the Designated Maturity which appears on the Reuters Screen LIBOR01 Page as of 11:00 a.m., London time, on the day that is two London Banking Days preceding that Reset Date.” As reflected in the example screenshots below, Reuters Screen LIBOR01 provides the ICE LIBOR rates and states the ICE LIBOR definition:

10:55 18JUL18		THOMSON REUTERS ICE LIBOR* RATES		UK67516	LIBOR01
ICE BENCHMARK ADMINISTRATION INTEREST SETTLEMENT RATES		Alternative to <3750>			
[18/07/18]		RATES AT 11:00 LONDON TIME 18/07/2018		Disclaimer <LIBORDISC>	
*FORMERLY KNOWN AS BBA LIBOR				LIBOR Guide <LIBORMENU>	
USD	GBP	CAD	EUR	JPY	EUR 365
0/N	1.91325	0.45563	-0.44514	SN-0.05983	
1WK	1.95213	0.47638	-0.43300	-0.06633	
2WK					
1M0	2.08625	0.58613	-0.39600	-0.06950	
2M0	2.17900	0.64888	-0.37029	-0.04800	
3M0	2.34750	0.75306	-0.35771	-0.03950	
4M0					
5M0					
6M0	2.52663	0.85163	-0.31857	0.01650	
7M0					
8M0					
9M0					
10M0					
11M0					
12M0	2.80088	1.01125	-0.23500	0.12333	
BBA NZD, DKK, SEK, AUD, CAD, EURSD & EUR365 discontinued. Please see <BBALEGACY>.					
<0#LIBORSUPERRICS> RICs for above <0#LIBORRICS> Contributor RICs					

225. In the upper, right-hand portion of Reuters Screen LIBOR01, there is a reference to the “LIBOR Guide” at “LIBORMENU,” which expressly references and links to Reuters

Screen “LIBORT” for the ICE LIBOR “Definition.” The Reuters Screen “definition” of ICE LIBOR tracks the Submission Question posed to the Panel Bank Defendants, including in part:

ICE LIBOR* Fixing

Interest Settlement Rates

The ICE LIBOR* fixing is based upon rates supplied by ICE LIBOR Contributor Panel Banks. An individual ICE LIBOR Contributor Bank contribute [sic] the ***rates at which it could borrow funds***, were it to do so by asking for and then accepting inter-bank offers in reasonable market size, just prior to 1100hrs.

ICE BENCHMARK ADMINISTRATION INTEREST SETTLEMENT RATES LIBORT

The definition of LIBOR was further refined during 1998 as part of a review of the LIBOR Fixing process by the British Bankers Association (BBA).

The following definition came into effect on 01 October 1998:

=====

ICE LIBOR* Fixing
Interest Settlement Rates

=====

The ICE LIBOR* fixing is based upon rates supplied by ICE LIBOR Contributor Panel Banks. An individual ICE LIBOR Contributor Bank contribute the rates at which it could borrow funds, were it to do so by asking for and then accepting inter-bank offers in reasonable market size, just prior to 1100hrs.

Contributor rates are ranked in order and the middle two quartiles averaged arithmetically. Such average rate will be the ICE LIBOR Fixing for that particular currency, maturity and fixing date.

226. Similarly, the 2006 ISDA Definitions provide: “USD-LIBOR-BBA-Bloomberg” means that the rate for a Reset Date will be the rate for deposits in U.S. Dollars for a period of the Designated Maturity which appears on the Bloomberg Screen BTMM Page under the heading “LIBOR FIX BBAM<GO>” as of 11:00 a.m., London time, on the day that is two London Banking Days preceding that Reset Date.” The corresponding Bloomberg screens are similar to their Reuters counterparts, providing the ICE LIBOR and the ICE LIBOR Submission Question:

ICE Benchmark Administration Limited (IBA)

ICE LIBOR Rates are based on rates quoted by ICE Contributor Banks. Every contributor bank is asked to base their ICE LIBOR submissions on the following question: “At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11 am London time?”

ICE Benchmark Administration Limited (IBA)

ICE LIBOR Rates are based on rates quoted by ICE Contributor Banks. Every contributor bank is asked to base their ICE LIBOR submissions on the following question: “At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11 am London time?”

B. LIBOR before ICE

227. Before ICE LIBOR, there was BBA LIBOR. BBA LIBOR was administered by the British Bankers Association (“BBA”), a trade association controlled by major banks. The BBA started setting LIBOR with panels of banks in the 1980s, but it was ousted from its role prior to the Class Period in the wake of a previous scandal involving collusive LIBOR rigging largely during the 2007-2009 period, around the 2008 financial crisis. That scandal involved a number of BBA LIBOR currencies as well as other “IBOR” benchmarks.

228. Numerous banks settled allegations of wrongdoing relating to BBA LIBOR and other financial benchmarks, including by paying substantial criminal and civil fines and penalties to government enforcers, as well as significant civil settlements. Traders submitting to the BBA were alleged to have collusively manipulated BBA LIBOR on numerous occasions to benefit particular trading positions, and also to have understated submissions to the BBA to overstate their creditworthiness when many of the banks were in severe financial distress during and around the 2008 financial crisis.

229. The BBA LIBOR governmental investigations came to light in 2011, when “investigations regarding submissions to the British Bankers’ Association, which sets LIBOR

rates” were first publicly disclosed.⁷¹ In June 2012, the first of many banks agreed to pay hundreds of millions in fines and civil penalties to the DOJ and CFTC to resolve claims that “between 2005 and 2007, and then occasionally thereafter through 2009,” certain of its traders requested “LIBOR and EURIBOR submitters contribute rates that would benefit the financial positions held by those traders.”⁷² Many others, including a number of current Panel Bank Defendants, would pay substantial fines, penalties, and settlements covering that time period for benchmark manipulation, including for manipulating EURIBOR, TIBOR, U.S. Dollar LIBOR, Sterling LIBOR, Swiss Franc LIBOR, and Yen LIBOR. The allegations in this case concerning ICE LIBOR are separate and distinct from prior LIBOR-related litigation pending in this District.

230. Concurrent with the litigations and enforcement actions stemming from that scandal were other regulatory efforts aimed toward improving financial benchmarks, including BBA LIBOR, in order to guard against future harm to investors. The first of these efforts was the Wheatley Review, which was commissioned by the U.K. government shortly after the initial settlements in 2012. The Wheatley Review produced a report on the BBA LIBOR scandal, known as the Wheatley Report, which was published in September 2012.⁷³

231. The Wheatley Report made numerous recommendations aimed at improving the process for setting BBA LIBOR. The reform efforts recommended by Wheatley (as well as by

⁷¹ UBS Annual Report, at 318 (Mar. 15, 2011), https://www.ubs.com/global/en/about_ubs/investor_relations/annualreporting/archive/_jcr_content/par/accordionbox_c1db/teaserbox_e506/teaser_87c2/linklist/link_7b5c.1396496368.file/bGluay9wYXRoPS9jb250ZW50L2RhS91YnMvZ2xvYmFsL2Fib3V0X3Vicy9pbnZlc3Rvc19yZWxhdGlvbnMvMTg5MTcyX0FSMjAxMF9lLnBkZg==/189172_AR2010_e.pdf.

⁷² Department of Justice (DOJ), *Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \$160 Million Penalty* (June 27, 2012), <https://www.justice.gov/opa/pr/barclays-bank-plc-admits-misconduct-related-submissions-london-interbank-offered-rate-and>.

⁷³ Wheatley Report, *supra*.

other regulatory groups, such as the International Organization of Securities Commissions (“IOSCO”) and the Financial Stability Board (“FSB”)) were directed at removing conflicts of interest, improving oversight and governance, and moving to ground panelists’ benchmark submissions in verifiable underlying transactions.

C. LIBOR Comes to America

232. Chief among the reforms that had been recommended by Wheatley in 2012 in the wake of the original LIBOR scandal was removing the BBA from the LIBOR setting process and “finding a new home for Libor.”⁷⁴

233. In July 2013, *The Wall Street Journal* reported that LIBOR would be moving “from British to American hands,”⁷⁵ observing:

Libor, the scandal-tarred benchmark owned by a British banking organization, is being sold to NYSE Euronext, the U.S. company that runs the New York Stock Exchange. . . . The deal means that the City of London will lose one of the institutions most closely associated with its rise as a global financial hub in recent decades. The new owner will be the institution that is most closely associated with Wall Street.⁷⁶

234. During early 2013, proposals were solicited and received from new candidates to administer a new LIBOR with the promise of restoring the “integrity” of the benchmark. This months-long selection process resulted in the ouster of the BBA in favor of NYSE Euronext, Inc. (“NYSE”), after “[a]n independent committee, set up by the UK government, selected the New

⁷⁴ David Enrich, Jacob Bunge & Cassell Bryan-Low, *NYSE Euronext to Take Over LIBOR*, THE WALL STREET JOURNAL (July 9, 2013), <https://www.wsj.com/articles/SB1000142412788732450740457859524333548714>.

⁷⁵ Phillipa Leighton-Jones, *Sold for 1£. NYSE Euronext Takes Over LIBOR*, THE WALL STREET JOURNAL (July 9, 2013), <https://blogs.wsj.com/moneybeat/2013/07/09/libor-sold-to-nyse-euronext-how-did-we-get-here/>.

⁷⁶ NYSE Euronext to Take Over LIBOR, *supra*.

York-based group over two UK-based rivals.”⁷⁷ In announcing its selection, NYSE maintained that it was “uniquely placed to restore the international credibility of LIBOR,” and committed to “restoring credibility, trust and integrity in LIBOR as a key global benchmark.”⁷⁸

235. At the time of its selection in July 2013, the NYSE was in the process of being taken over by Atlanta-based ICE, which would trumpet its newly-acquired role in a “Strategic & Financial Update” to shareholders in late 2013, emphasizing that LIBOR is among the “most ubiquitous benchmarks,” the trillions in outstanding notional value linked to LIBOR, and ICE’s own “[t]rack record of leveraging intellectual property to create value.”⁷⁹

236. Some objected to NYSE/ICE taking over the LIBOR setting process. An RBC analyst was quoted at the time to say: “[t]he fact they are handing this to a derivatives exchange is a surprise. . . It just doesn’t seem independent enough.”⁸⁰

237. CFTC Commissioner, Bart Chilton stated:

We had a ‘fox guarding the henhouse’ issue here, and we should learn from that. . . I firmly believe that having a truly neutral third party administrator would be the best alternative, and I’m not sure that an exchange is the proper choice.⁸¹

238. Mr. Chilton would further state as to NYSE/ICE taking over: “Whenever there’s a profit motive involved in setting [these benchmarks], I get suspicious.”⁸² These concerns would prove prescient.

⁷⁷ Brooke Masters & Philip Stafford, *Scandal-Plagued LIBOR Moves to NYSE*, FINANCIAL TIMES (July 9, 2013), <https://www.ft.com/content/73332222-e87f-11e2-ae0144feabdc0>.

⁷⁸ NYSE Euronext, *NYSE Euronext Subsidiary to Become New Administrator of LIBOR* (July 9, 2013), http://static.tijd.be/upload/LIBOR_4205987-64897.pdf.

⁷⁹ ICE, *ICE Strategic & Financial Update*, at 11 (Nov. 19, 2013), <https://ir.theice.com/~/media/Files/I/Ice-IR/events-presentations/presentation/financial-strategic-update-11-19-13-vf1.pdf>.

⁸⁰ Matt Levine, *NYSE Wants To Be Responsible For Libor For Some Reason*, DEALBREAKER (July 9, 2013), <https://dealbreaker.com/2013/07/nyse-wants-to-be-responsible-for-libor-for-some-reason/>.

⁸¹ *Id.*

239. After being named the new administrator in July 2013, but prior to officially taking over as administrator in early 2014, ICE attended meetings of an “Interim LIBOR Oversight Committee,” established by the BBA on which sat a number of the Panel Bank Defendants. During the months between its formal appointment and actually taking over as an administrator, ICE had the opportunity to learn the true nature of the lack of interbank funding underlying LIBOR.

240. Nevertheless, ICE filed for U.S. trademarks, which branded the “new and improved” ICE LIBOR®,⁸³ and officially took over as the administrator as of midnight February 1, 2014.⁸⁴

D. The Demise of the Interbank Funding Market Underlying USD ICE LIBOR Submissions and USD ICE LIBOR Rates

241. Notwithstanding the numerous reforms called for in the wake of the original LIBOR scandal, ICE has continued to calculate LIBOR based on the Panel Bank Defendants’ responses to the same “Submission Question,” as did the BBA, which asks each business day:

“***At what rate could you borrow funds***, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11am?”⁸⁵

242. However, there is not an active “interbank” funding market in which the panels “could” “borrow funds,” much less in any “reasonable market size” each morning on a daily

⁸² NYSE Euronext to Take Over LIBOR, *supra*.

⁸³ U.S. Trademark Reg. No. 4956352 (filed Feb. 4, 2014).

⁸⁴ ICE, *ICE Benchmark Administration to Become New Administrator of LIBOR on February 1, 2014* (Jan. 17, 2014), <https://ir.theice.com/press/press-releases/all-categories/2014/01-17-2014>.

⁸⁵ ICE LIBOR Overview, *supra*. Compare *BBA Libor, The Basics*, <http://www.bbatrent.com/explained/the-basics>.

basis. In the words of Chairman Powell and Chairman Giancarlo: “*In essence, banks are contributing a daily judgment about something they no longer do.*”⁸⁶

243. Although LIBOR ostensibly “indicates the interest rate that banks pay when they borrow on an unsecured basis,”⁸⁷ regulators have revealed that the market for interbank unsecured borrowing, which is the market underlying LIBOR, has all but ended. “Indeed, while the use of financial products referencing LIBOR has steadily grown, the actual volume of unsecured borrowing transactions underlying LIBOR has been in decline.”⁸⁸

244. ICE LIBOR has lacked an active underlying market since at least 2014 when ICE took over from the BBA. While implementing conduct and governance-related LIBOR reforms in the wake of the original LIBOR scandal, regulators came to learn that there were not enough transactions in the interbank lending market to support the ICE LIBOR benchmark. As a result, regulatory and industry efforts have shifted from repairing LIBOR to replacing it.

245. While there was once a robust underlying interbank funding market on which ICE LIBOR rates and submissions could be based, interbank funding was on the decline by the time of the financial crisis, and market changes after the crisis exacerbated its demise. As Defendant RBC has observed, “much of this decline can be attributed to changes in the regulatory framework that have made it far less attractive for banks to lend to other banks through short-term unsecured markets.”⁸⁹

⁸⁶ Chairman Powell speech, *supra*. See also ISDA, IBOR Global Transition Roadmap 2018, *supra*.

⁸⁷ ICE, Code of Conduct, Issue 5, *supra*, ¶1.2.

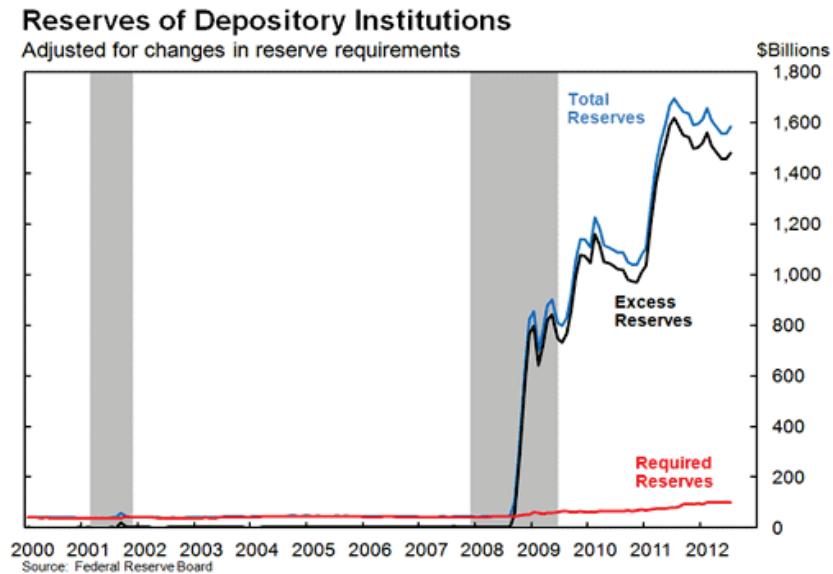
⁸⁸ Federal Reserve Bank of New York, *Second Report of the Alternative Reference Rates Committee*, at 27 (ARRC) (Mar. 2018) <https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-Second-report>.

⁸⁹ RBC Capital Markets, *Preparing for transition: Update on LIBOR and a possible shift to alternative reference rates* (Mar. 2018), <https://www.rbccm.com/assets/rbccm/docs/uploads/2017/Preparing%20for%20Transition%20->

246. The demise of the interbank lending market is a story that was a direct result of the Fed's efforts to stabilize the banking industry during the financial crisis. Prior to 2008, the Federal Reserve would pay interest only on the level of reserves required to be held on deposit with the Fed. No interest was paid on balances above the reserve requirement. Banks would manage their balance at the Fed to minimize their excess reserves in favor of investing, including by loaning into the interbank market, to generate a return. The interbank market was one of the primary outlets to which banks, with excess reserves, would turn by loaning funds to other banks on an unsecured, short-term basis. During the financial crisis in 2008, the Federal Reserve changed its longstanding rule and began paying interest on all reserves, including interest excess reserves, at a rate set by the Fed ("IOER"). As a result, banks have ready access to risk-free, short-term interest on their excess reserves through the Fed. They have been increasingly unwilling to put their capital at risk in the form of loaning funds on an unsecured, short-term basis.

247. During the years since the Federal Reserve began paying interest on excess reserves and other post-crisis reforms were mandated, large banks, like the Panel Bank Defendants, have been holding cash in reserve rather than extending unsecured interbank loans, as reflected in the following chart:

%20Update%20on%20LIBOR%20and%20a%20Possible%20Shift%20to%20Alternative%20Reference%20Rates.pdf.



248. Following the financial crisis, and as a result of changed market conditions, the once robust interbank funding market dried up almost entirely, as illustrated in the following chart derived from data collected by the Federal Reserve:



249. As the head of the Federal Reserve Bank of New York, William C. Dudley, recently observed:

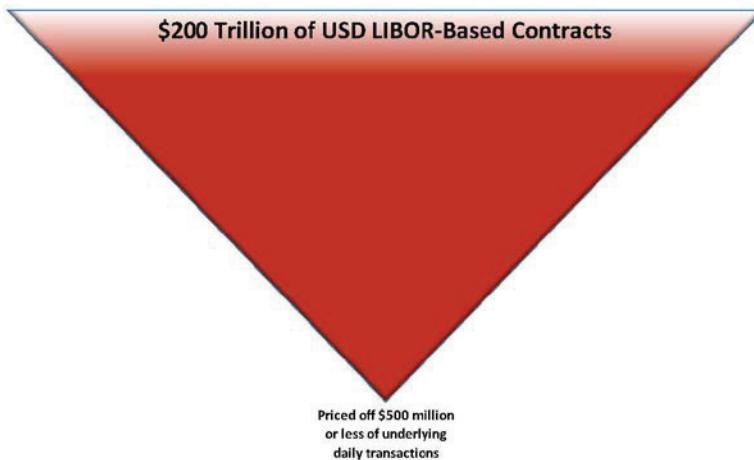
The essential problem with LIBOR is the inherent fragility of its “inverted pyramid,” where the pricing of hundreds of trillions of dollars of financial instruments rests on the expert judgment of relatively few individuals, informed by a very small base of unsecured interbank transactions. Moreover, that base has contracted further in recent years, due to many factors, including regulatory

reform and the quantitative easing programs initiated by central banks in many of the major advanced economies. Relative to the vast sums of U.S.-dollar LIBOR contracts I mentioned earlier, the median daily volume of unsecured three-month U.S.-dollar wholesale borrowing is minuscule, at around \$1 billion, and many days see less than \$500 million in volume. This lack of market liquidity means that these rates cannot be sufficiently transaction-based to be truly representative, and rates that are not transaction-based are more at risk to be manipulated.

* * * *

So, despite efforts to improve LIBOR in recent years – and there undoubtedly have been important changes that have strengthened its administration and governance – the lack of underlying market liquidity for nearly all currencies and maturities remains a problem, and there is no obvious solution. The setting of LIBOR still depends heavily on expert judgment. Even for U.S.-dollar LIBOR, actual transactions are the basis for only about one-third of the rate submissions for tenors of one and three months. This is noteworthy because these are the maturities that are referenced by the bulk of financial contracts.⁹⁰

250. A recent presentation from the CFTC illustrates this “inverted pyramid”.⁹¹



4

251. More recently, the Federal Reserve specifically disclosed as to USD ICE LIBOR

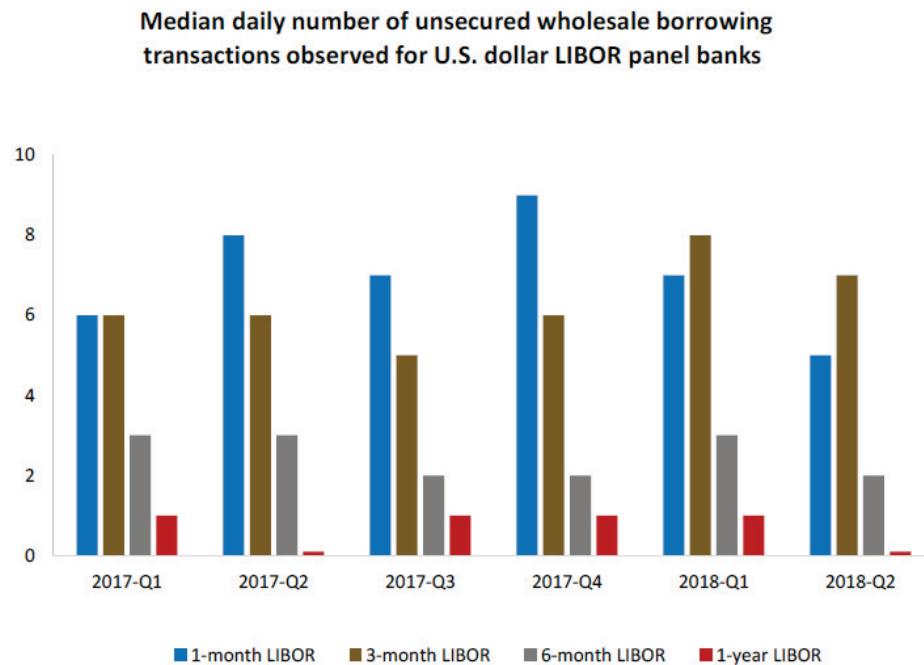
in a July 19, 2018, presentation:

⁹⁰ Dudley May 24, 2018 speech, *supra*.

⁹¹ See CFTC, *Panel 1: Overview of LIBOR Reform*, CFTC Market Risk Advisory Committee (MRAC) Meeting (July 12, 2018), https://www.cftc.gov/sites/default/files/2018-07/mrac071218_AlternativeReferenceRates.pdf.

On average, we observe six or seven transactions per day at market rates that could underpin one- and three-month ***LIBOR across all of the panel banks***. The longer maturities have even fewer transactions. There are two to three transactions each day for six-month LIBOR. On average, there is only one transaction that we see underlying one-year LIBOR, and ***many days there are no transactions at all***.⁹²

252. This actually *overstates* the volume of ***interbank*** transactions. The notes to this data presented by the Federal Reserve reveal that even this small handful of “transactions” are not limited to interbank funding transactions. Rather, the transactions consist of: “fed funds, Eurodollar, certificates of deposit ***and*** unsecured commercial paper transactions,” as reflected in the presentation slide from the Federal Reserve reproduced below:



Note: Chart key describes bars in order from left to right for each quarter. Transactions are aggregated across all available fed funds, Eurodollar, certificates of deposit, and unsecured commercial paper transactions of the 16 banks currently submitting to U.S. dollar LIBOR. Transactions above \$10 million with tenors between 25 and 35 days (for one month), 80 and 100 calendar days (three month), 150 to 210 calendar days (six month), or 330 and 390 days (one year) are included for each maturity, excluding any transactions more than 25 basis points above or below the day's LIBOR rate (excluding days on which the FOMC altered its monetary policy targets).

⁹² Quarles, Introductory Remarks, *supra*.

253. This shows that it is simply not true that the Panel Bank Defendants “could” “borrow funds” in U.S. dollars in the interbank market in any “reasonable market size,” much less “just prior to 11am” each and every morning during the Class Period.

E. USD ICE LIBOR Submissions and USD ICE LIBOR Rates Were Depressed During the Class Period

254. During the Class Period, one thing is certain: USD ICE LIBOR submissions and USD ICE LIBOR rates – despite the Submission Question – were *not representative* of the rates at which the Panel Bank Defendants “could” borrow unsecured interbank funds. Multiple statistical analyses show that USD ICE LIBOR submissions and rates were artificially low and have not reflected the funding costs of the banks. As a result, Defendants systematically submitted and set rates below where they would have been but for their violations of law during the Class Period.

1. USD ICE LIBOR Submissions and Rates Did Not Reflect the Panel Bank Defendants’ True Costs of Borrowing

255. USD ICE LIBOR submissions and rates were consistently lower than what they should have been, as demonstrated by a number of objective measures. Although ICE LIBOR was understood by investors to be “the interest rate high-credit quality banks charge one another for short-term financing,”⁹³ the submissions and published rates did not include the credit, term, and liquidity premiums called for by the ICE LIBOR definition and thus did not reflect, and were substantially lower than, the Panel Bank Defendants’ true costs of borrowing.

256. That is, even though “each submission” in response to the daily Submission Question was purportedly “a subjective determination of the rate at which a given Panel Bank

⁹³ PIMCO, *supra*.

could transact,”⁹⁴ ICE LIBOR submissions and rates were always (or nearly always) below the level at which the panel banks “could” have expected to obtain funding, even assuming they “could” borrow.

257. As defined, ICE LIBOR “incorporates a bank credit risk premium because it is an unsecured interbank funding rate.”⁹⁵ ICE LIBOR submissions, therefore, should “reflect not only a risk-free component, but also counterparty credit risk related to the specific borrower.”⁹⁶

258. A credit component should be inherent in ICE LIBOR because ICE LIBOR is (or should be) based on unsecured lending, as distinguished from secured or government lending. As the FSB Report explains:

Market interest rates can be decomposed into a risk-free rate and several risk premia, including a term premium, a liquidity premium, and a credit risk premium as well as potentially a premium for obtaining term funding. Reference rates such as the IBORs that are based on unsecured interbank markets reflect a premium for the credit risk of their contributing banks as well as potential term, liquidity, and funding premia. However, rates based on secured borrowing markets or for unsecured borrowing by sovereigns with little default risk would not contain this type of credit risk premium.⁹⁷

259. USD ICE LIBOR submissions and rates have not reflected the credit costs of the banks during the Class Period. Individual USD ICE LIBOR submissions have been lower than what they would have been had they reflected the creditworthiness of the individual submitters. As a result, USD ICE LIBOR rates have been set lower than where they would have been set, had USD ICE LIBOR actually reflected the credit component.

⁹⁴ ICE LIBOR Evolution, *supra*, at 4.

⁹⁵ BlackRock, *Libor the Next Chapter*, at 6 (July 27, 2017), <https://www.blackrock.com/corporate/literature/whitepaper/viewpoint-libor-the-next-chapter-april-2018.pdf>.

⁹⁶ Dudley Oct. 2, 2014 speech, *supra*. (“As is clear from the hypothetical question, LIBOR is meant to capture a bank’s cost of unsecured borrowing. This means that the reference rate will reflect not only a risk-free component, but also counterparty credit risk-related to the specific borrower.”).

⁹⁷ FSB, Reforming Major Interest Rate Benchmarks, *supra*, at 10.

260. Comparisons of IOER and General Collateral rates to USD ICE LIBOR submissions and rates and the Panel Bank Defendants' contemporaneous CDS spreads show that the Panel Bank Defendants' USD ICE LIBOR submissions and USD ICE LIBOR rates during the Class Period do not accurately reflect the Panel Bank Defendants' cost of borrowing. As a result of Defendants' conduct, USD ICE LIBOR rates have been depressed throughout the Class Period.

a. Interest on Excess Reserves

261. As discussed above, interbank lending plummeted while levels of excess reserves deposited with the Federal Reserve soared in the wake of the financial crisis. Large U.S. and foreign banks, such as the Panel Bank Defendants, increasingly have been holding excess reserves as an alternative to interbank unsecured lending in recent years. However, during the Class Period, the overnight and 1-month USD ICE LIBOR rates have, nearly always, been lower than the interest rate the Federal Reserve pays on such excess reserves.

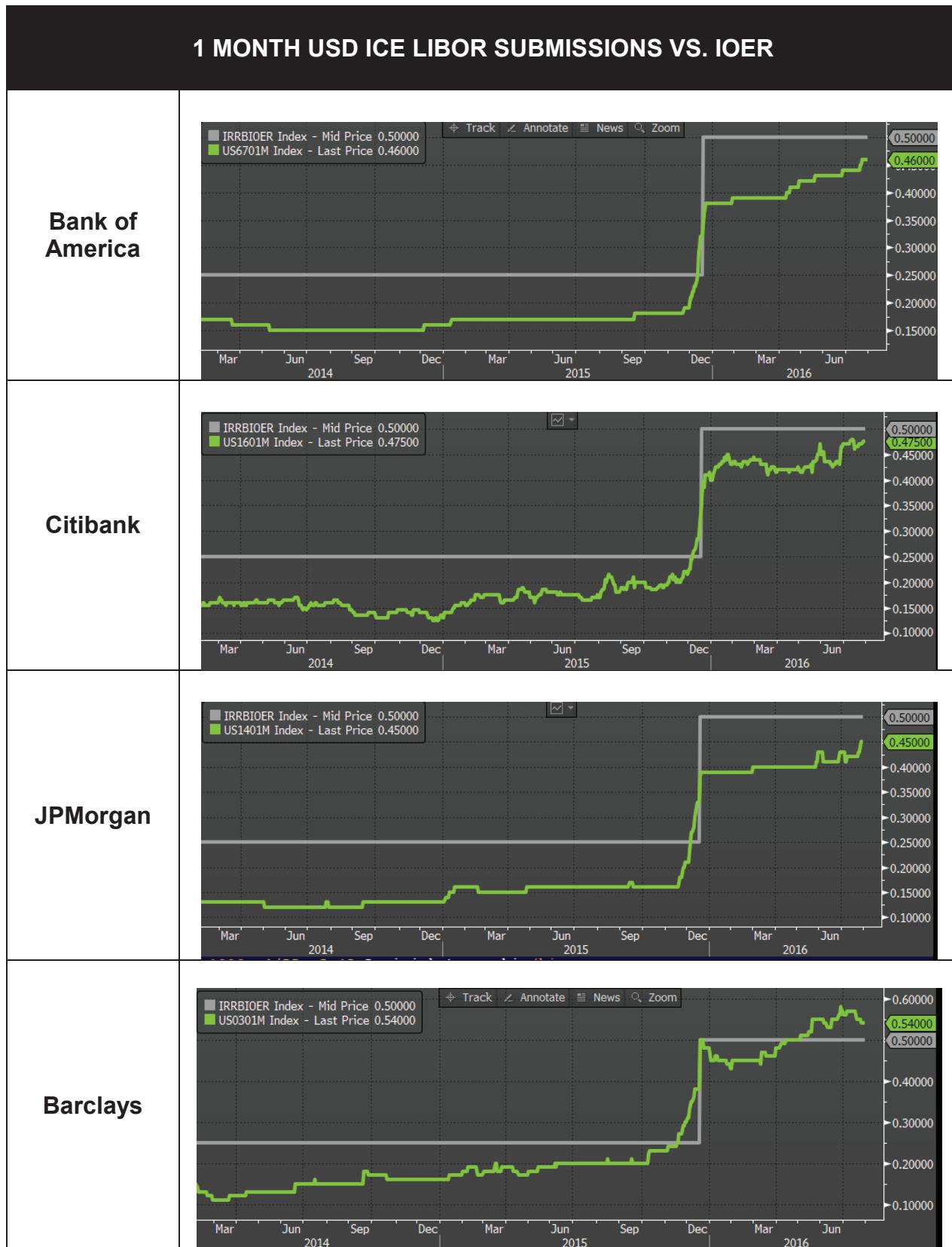
262. During the financial crisis in 2008, the Federal Reserve changed its longstanding rule and began paying interest on all reserves, including excess reserves. Prior to 2008, the Federal Reserve did not pay interest on excess reserves. The interbank market was one of the primary outlets to which banks with excess reserves would turn by loaning funds to other banks on an unsecured, short-term basis.

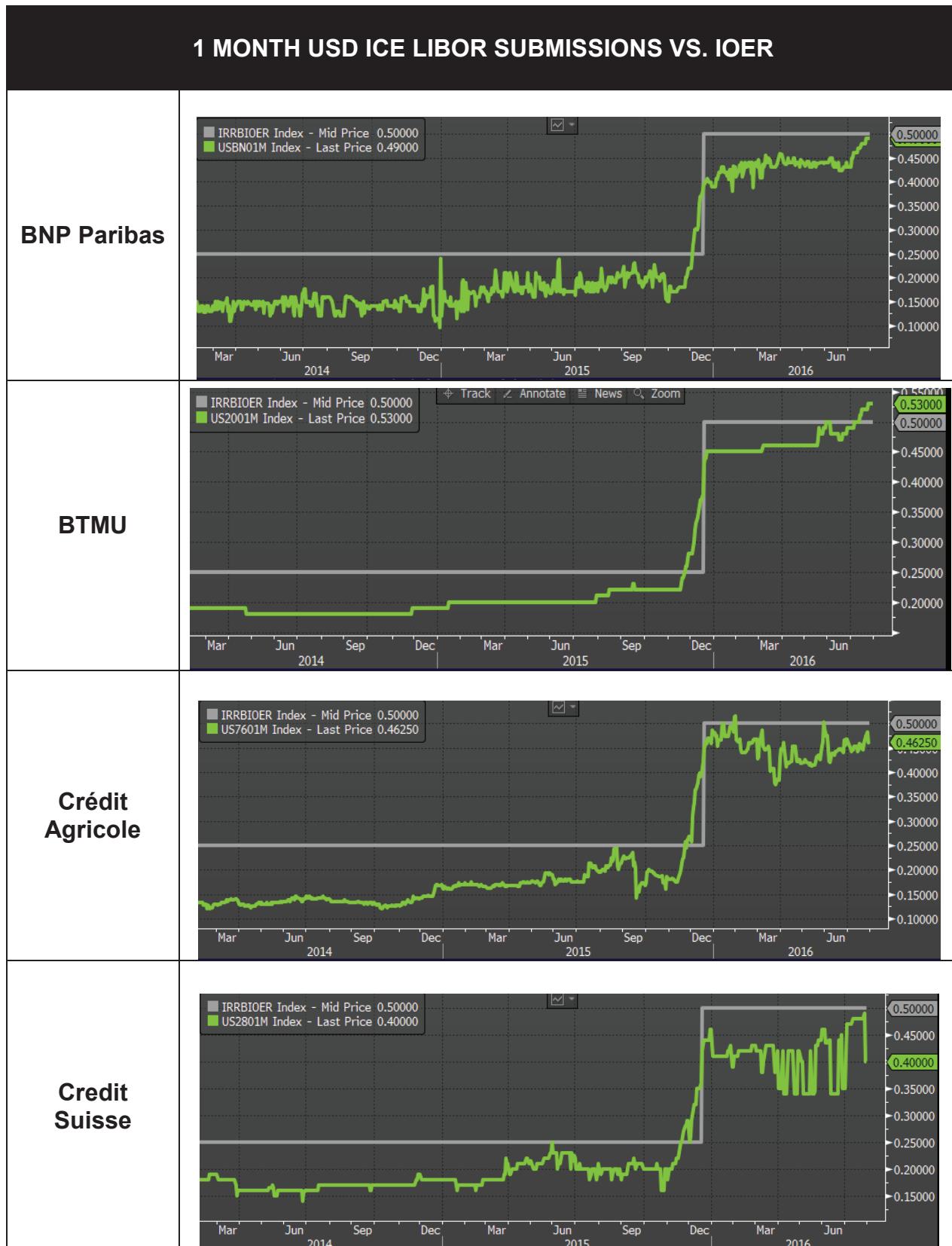
263. With the Federal Reserve paying IOER, banks have ready access to risk-free, short-term interest on their excess reserves through the Federal Reserve. During the years since the Federal Reserve began paying interest on excess reserves and other post-crisis reforms were mandated, large banks, like the Panel Bank Defendants, have been holding cash in reserve rather than extending unsecured interbank loans.

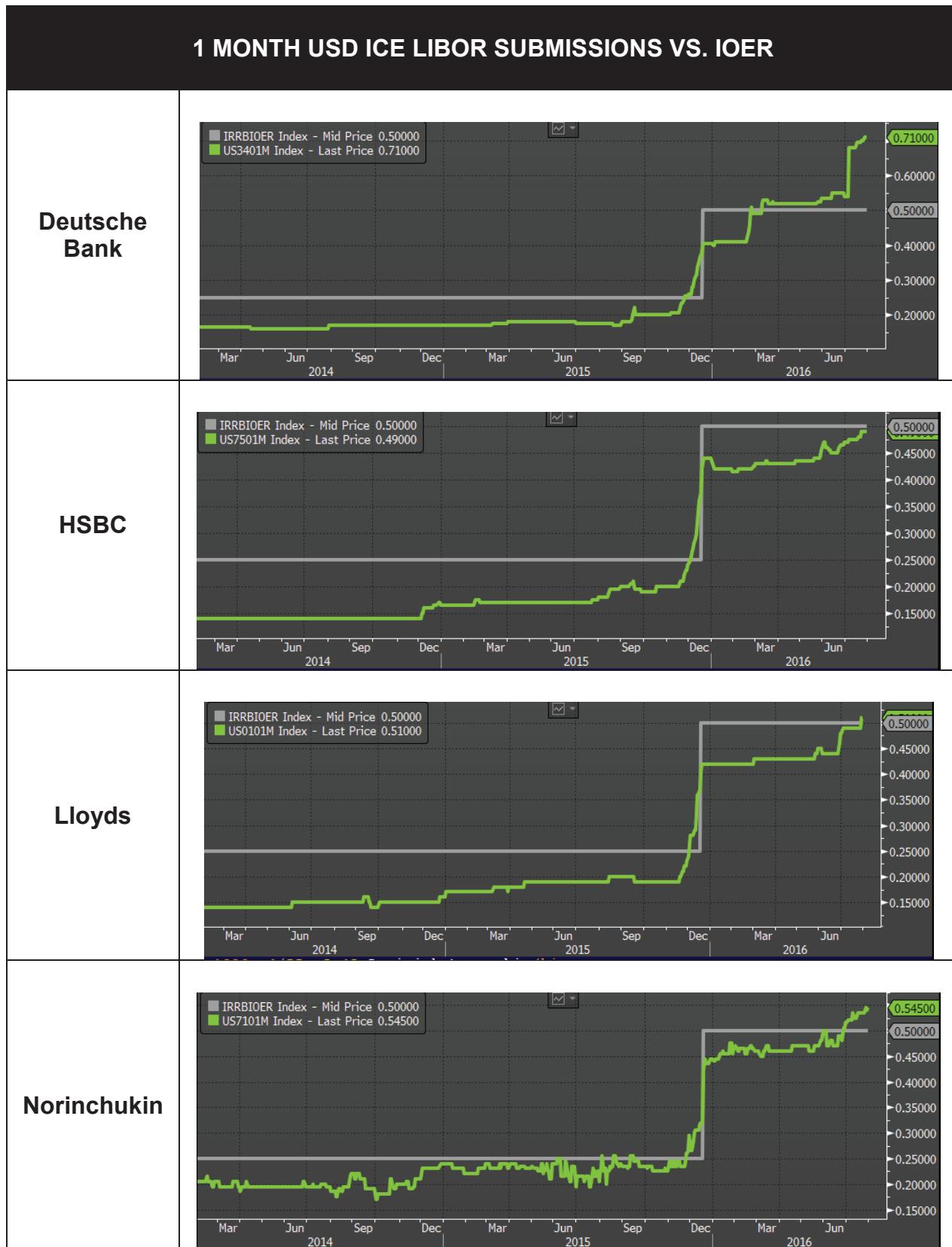
264. IOER should be a floor. In a functioning market that efficiently prices risk, the rate at which the Panel Bank Defendants could expect to borrow on an unsecured interbank basis should always, or nearly always, be higher than IOER because reserves deposited with the Fed do not carry the risk premium associated with the unsecured interbank loans on which USD ICE LIBOR submissions and rates are supposed to be based.

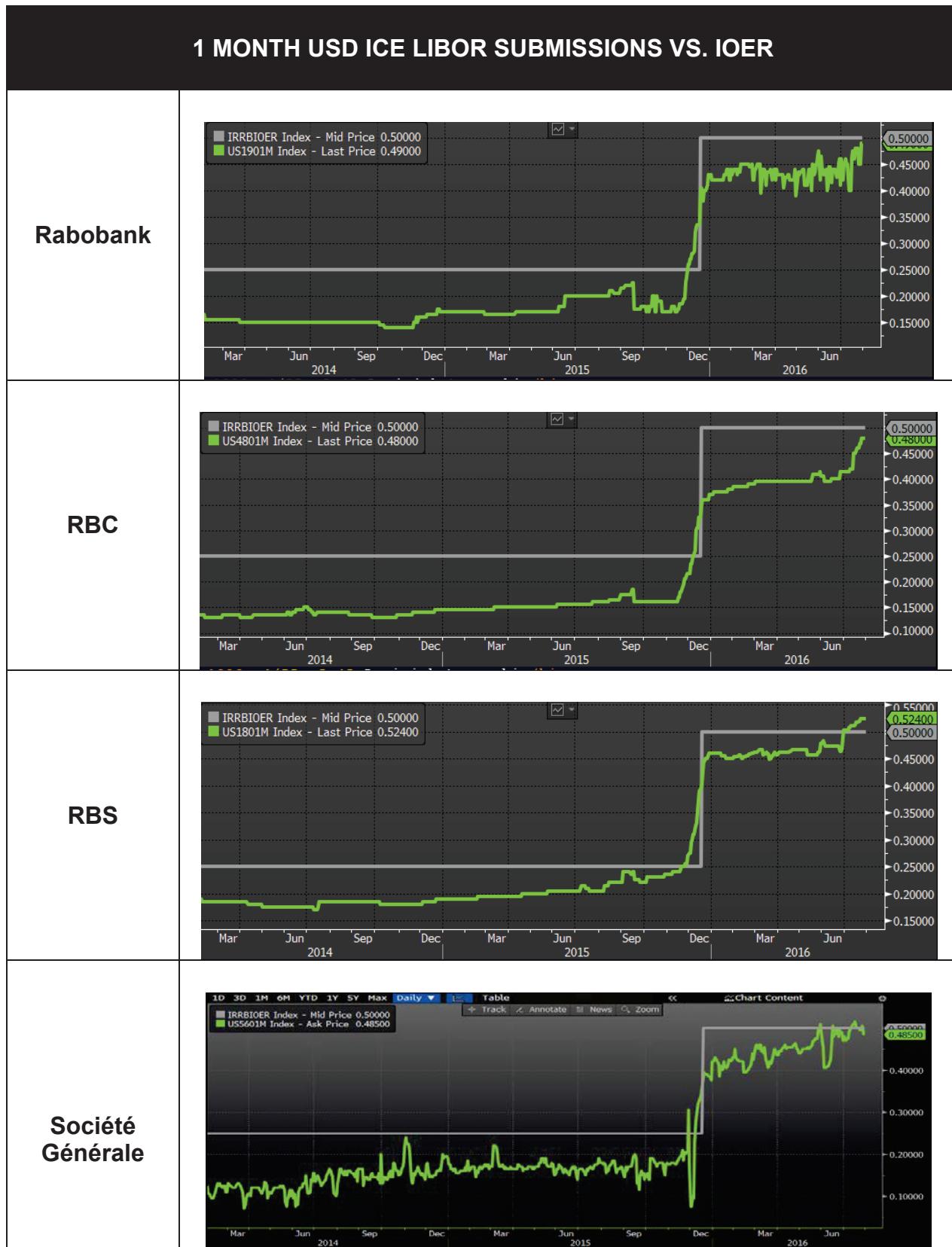
265. As an unsecured rate, USD ICE LIBOR contains a credit component. A Panel Bank Defendant, in submitting the rate at which it “could” borrow, even if estimating, rather than referencing actual interbank transactions (due to the lack of interbank transactions), would (if answering truthfully) respond with a rate higher than IOER by an amount that would capture its own perceived counterparty risk for the appropriate tenor. In addition to a credit spread, submissions (in tenors other than the overnight), should incorporate an appropriate spread to account for term and liquidity risk. As a result, overnight and short-term USD ICE LIBOR should always be higher than IOER.

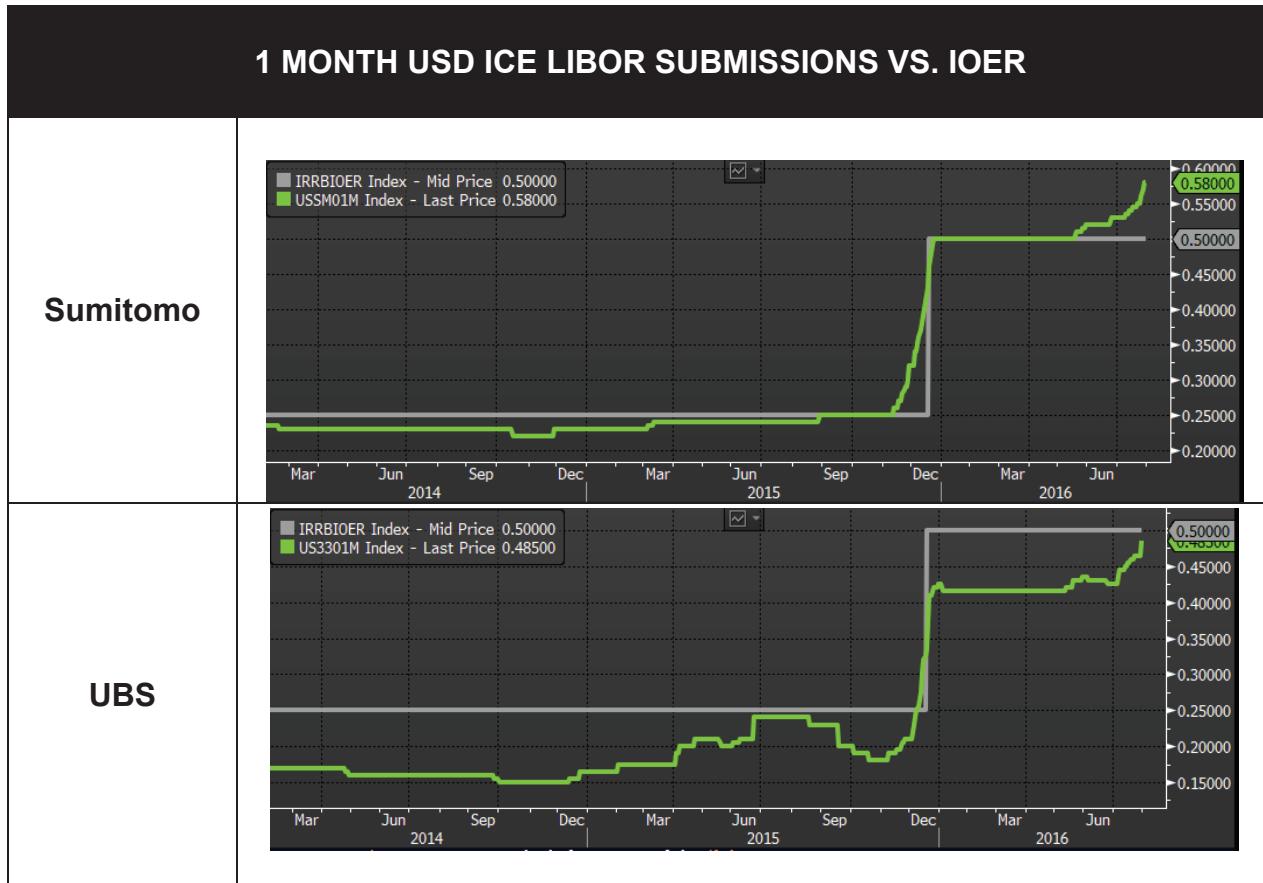
266. The Panel Bank Defendants’ individual submissions, however, were well below where they should have been in relation to IOER during the Class Period. The following charts show that all of the Panel Bank Defendants submitted 1-month LIBOR significantly below IOER nearly every day from February 1, 2014 (when ICE took over as administrator) through July 29, 2016 (the last date on which the Panel Bank Defendants’ submissions are publicly available):











267. The following charts compare Overnight and 1-month USD ICE LIBOR to IOER from the same period and show that rather than being above IOER, overnight USD ICE LIBOR and 1-month USD ICE LIBOR were actually nearly always below IOER:





268. The following charts compare IOER and Overnight and 1-month USD ICE LIBOR for the period July 30, 2016, through December 31, 2017, and show that Defendants consistently continued to set USD ICE LIBOR overnight below IOER during that time:



b. General Collateral

269. A comparison of the USD ICE LIBOR submissions and USD ICE LIBOR to General Collateral (“GC”) rates also shows that USD ICE LIBOR submissions and USD ICE LIBOR did not reflect the Panel Bank Defendants’ true cost of funding, and were lower than they should have been during the Class Period.

270. All else being equal, a secured rate should be substantially lower than an unsecured rate. (For example, lenders generally charge higher rates on credit cards, which are unsecured lines of credit, than they do on mortgages, which are secured by a lien on real property).

271. GC rates are benchmarks that represent average yields on repurchase agreements (“repos”) that use U.S. government securities as collateral. As secured rates, GC rates should be substantially lower than USD ICE LIBOR, which (purportedly) “indicates the interest rate that banks pay when they borrow on an unsecured basis.”⁹⁸

272. Capital adequacy ratios were established by the Basel Committee on Banking Supervision and have been adopted by most banking regulators around the world. Assets are risk-weighted to determine a base level of capital that a financial institution must hold to support its balance sheet.

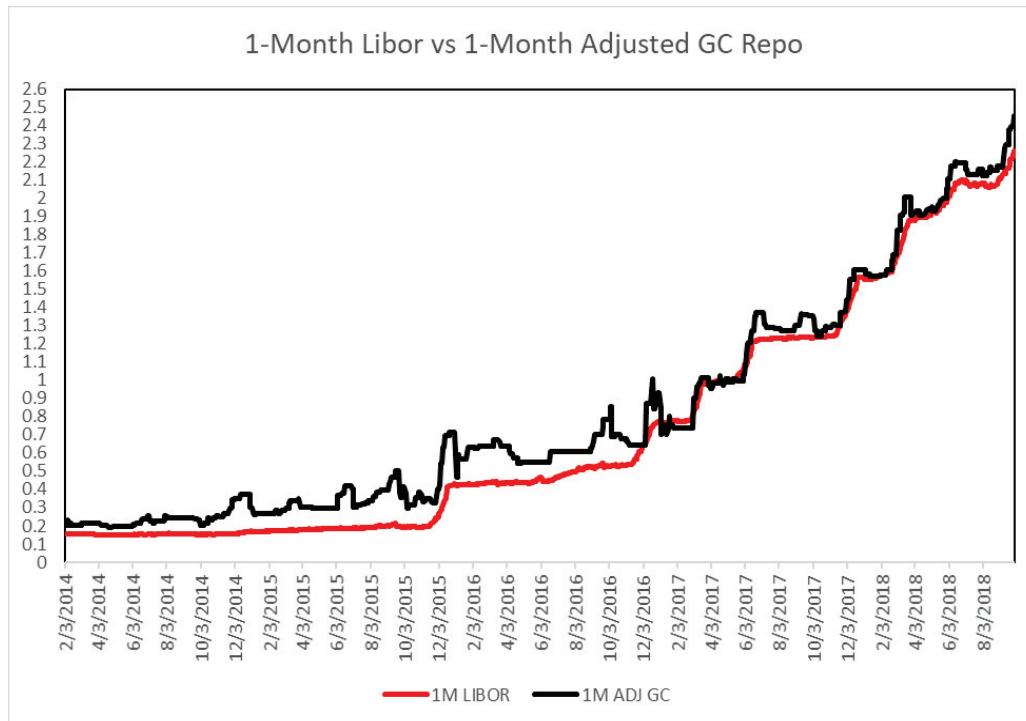
273. At a minimum, the spread between GC and USD ICE LIBOR submissions should account for the cost of capital of mandated capital requirements. Interbank loans (purportedly underlying ICE LIBOR rates) are assigned a 20% risk-weighting, while U.S. government securities (underlying GC rates) are assigned a 0% risk-weighting. This implies a significant spread between ICE LIBOR and GC. Based on a blended 6.50% cost of capital during the Class

⁹⁸ ICE, Code of Conduct, Issue 5, *supra*, ¶1.2.

Period, an unsecured loan would require an estimated 13 additional basis points in yield to account for the capital allocation.

274. USD ICE LIBOR was much closer to GC than implied, however. USD ICE LIBOR fell consistently below GC plus the 13 basis point implied spread during the Class Period. Indeed, for all comparable tenors, the actual spread between USD ICE LIBOR and GC was less than GC adjusted for the minimum spread implied by risk-weighting and the cost of capital more than 80% of the time during the Class Period.

275. The following chart illustrates that even though USD ICE LIBOR should have been at or above the level of adjusted GC, 1-month USD ICE LIBOR was consistently below the level of adjusted GC during the Class Period:



c. CDS Spreads

276. A comparison of the Panel Bank Defendants' CDS spreads relative to their respective USD ICE LIBOR submissions also indicates that the Panel Bank Defendants' LIBOR submissions did not reflect their creditworthiness and thus were too low.

277. A CDS is a tool for hedging credit risk. The buyer of a CDS purchases the seller's promise to pay on the occasion of a "credit event," such as a default on the debt instrument by a third party, who is known as the underlying "reference entity." Banks, like any other companies, can be reference entities underlying CDS contracts. CDS spreads are the annual amount that a buyer pays to the seller during the period of the contract, and they represent the premium paid to transfer the credit risk associated with a reference entity. Importantly, CDS spreads vary considerably with the relative creditworthiness of the reference entity.

278. During the Class Period, the Panel Bank Defendants' CDS spreads varied considerably over time corresponding to the Panel Bank Defendants' perceived creditworthiness in the market. However, USD ICE LIBOR rates are relatively flat with, at times, no discernible relation to CDS spreads as would be expected. That is, even though the Panel Bank Defendants' individual and collective perceived creditworthiness should have been a component of USD ICE LIBOR submissions and rates, the contemporaneous data shows that they were not.

279. Below is a selection of charts comparing certain Panel Bank Defendants' respective 1-year CDS spreads with their respective 1-year USD ICE LIBOR submissions from February 1, 2014 (when ICE took over as an administrator) through July 29, 2016 (the last date on which the Panel Bank Defendants' submissions are publicly available).

280. These charts illustrate that USD ICE LIBOR submissions were untethered to the submitting banks' creditworthiness. For a number of banks, there were significant variations in

CDS spreads over time, reflecting changes in perceived creditworthiness, while, at the same time, there was no such movement in those banks' USD ICE LIBOR submissions.

281. For example, Deutsche Bank was in such turmoil during 2016 that it was at times compared to Lehman Brothers during the financial crisis. The International Monetary Fund reported that Deutsche Bank "appeared to be the riskiest bank in terms of threats posed to global financial system,"⁹⁹ and it was reported that "hedge funds clearing derivatives trades with Deutsche had withdrawn some excess cash and adjusted positions, a sign of counterparties being wary of doing business with Germany's largest lender."¹⁰⁰ This is reflected in the sharp and sustained spike in Deutsche Bank's 1-year CDS spread during 2016 shown by the jagged white line on the chart below:



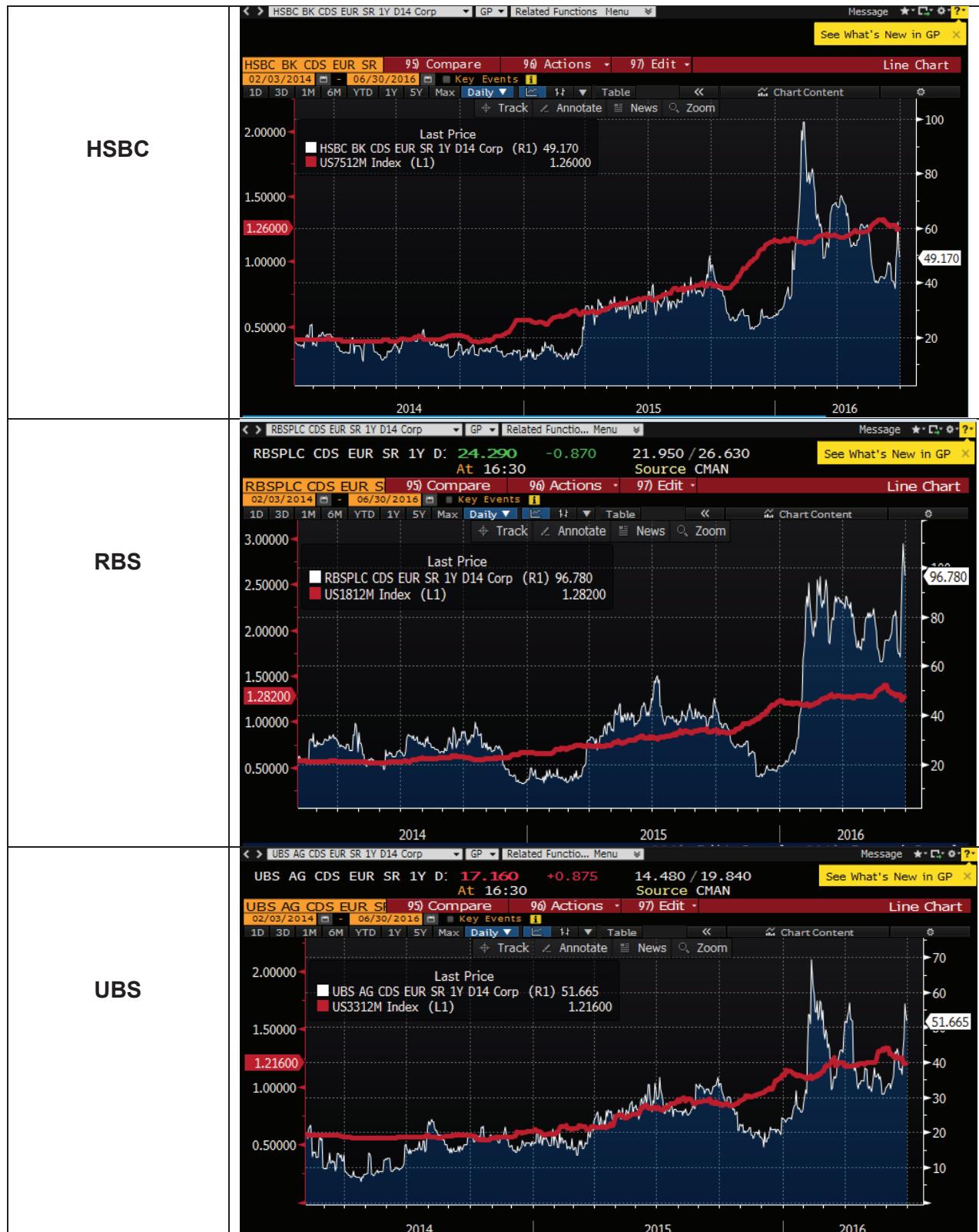
⁹⁹ Landon Thomas Jr., *Deutsche Bank Singled Out in I.M.F. Stability Warning*, NEW YORK TIMES (Oct. 5, 2016), <https://www.nytimes.com/2016/10/06/business/dealbook/deutsche-bank-singled-out-in-imf-stability-warning.html>.

¹⁰⁰ *Deutsche Bank CDS jump 21 basis points after stability concerns*, REUTERS (Sept. 30, 2016), <https://www.reuters.com/article/us-germany-deutsche-bank-cds-idUSKCN1200UO>.

282. However, as can be seen from the red (and relatively flat) line representing Deutsche Bank's 1-year USD ICE LIBOR submissions during the same time, the market's views of Deutsche Bank's creditworthiness varied over time and were otherwise inconsistent with Deutsche Bank's contemporaneous USD ICE LIBOR submissions.

283. Examples from other Panel Bank Defendants follow:





2. USD ICE LIBOR Submissions and Rates Violated Benford's Law

284. A generally-accepted statistical test used in forensic accounting to detect anomalies in pricing and other numerical data shows that Defendants' USD ICE LIBOR submissions and rates during the Class Period were artificial.

285. Benford's Law states that "in many naturally occurring tables of numerical data, the leading significant digits are not uniformly distributed as might be expected, but instead follow a particular logarithmic distribution."¹⁰¹ That is, each digit (*i.e.*, 1-9) should occur in certain predictable frequencies. According to Panel Bank Defendant Deutsche Bank, "Benford's law holds for global financial data and is robust over time."¹⁰²

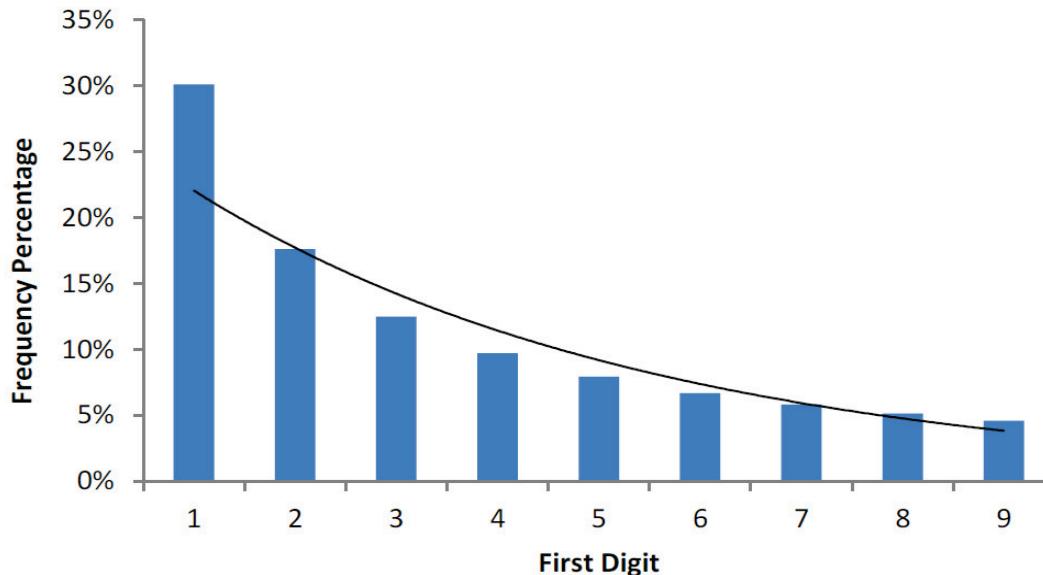
286. As depicted in the chart below taken from a Deutsche Bank investor communication promoting the applicability of Benford's Law to financial data sets, digits in data sets conforming with Benford's Law are distributed along a smooth and predictable pattern,¹⁰³ sometimes called Benford's curve.

¹⁰¹ Theodore P. Hill, A statistical derivation of the significant-digit law, *Statistical Science*, vol. 10(4), pp. 354-63 at 354 (1995).

¹⁰² Deutsche Bank Market Research, *supra*.

¹⁰³ *Id.*

Figure 2: Theoretical distribution of the Benford's law



Source: Deutsche Bank Quantitative Strategy

287. Benford Tests were performed on all publicly available published USD ICE LIBOR daily submissions and rates using the first digit of the day-to-day percentage differences for the 18 Panel Bank Defendants for each of five tenors (overnight, the 1-month, 3-month, 6-month, 12-month) since ICE took over in February 2014. The test results for every Panel Bank Defendant show to *a statistical certainty greater than 99%* that their submissions did not conform to Benford's Law.

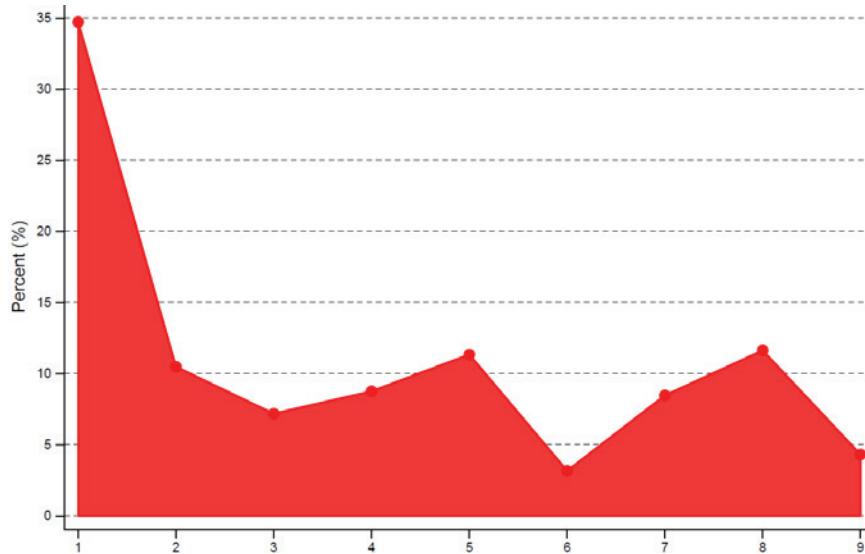
288. Benford's Law was applied to the 18 Panel Bank Defendants' USD ICE LIBOR submissions, and a Chi-squared test was applied to determine the significance of the disparities between expected and actual digit frequency results. The following table displays Chi-squared statistic values and 1-p values of the Chi-squared test showing statistical certainty of the Panel Bank Defendants' aggregated submissions' lack of compliance with Benford's Law. Banks are ranked by Chi-squared statistic values to three decimal places. The highest Chi-squared statistic is 161.70 for Royal Bank of Canada. This means to a statistical certainty of greater than

99.999%, Royal Bank of Canada's submissions are inconsistent with Benford's Law. Even for Barclays, which has the lowest Chi-squared statistic, there is 99.406% certainty that Barclays' submissions are inconsistent with Benford's Law.

USD ICE LIBOR Submissions
Statistical Certainty of Inconsistency with Benford's Law

Panel Bank Defendant	Chi-Squared	Statistical Certainty
Royal Bank of Canada	161.70	99.999%
MUFG	139.52	99.999%
UBS	131.15	99.999%
Citibank	115.00	99.999%
Sumitomo	87.11	99.999%
Norinchukin	83.29	99.999%
Rabobank	73.79	99.999%
Royal Bank of Scotland	70.49	99.999%
Bank of America	64.23	99.999%
Crédit Agricole	62.84	99.999%
BNP Paribas	48.16	99.999%
HSBC	43.87	99.999%
Credit Suisse	33.78	99.996%
Lloyds	33.76	99.996%
Société Générale	32.77	99.993%
Deutsche Bank	28.85	99.966%
JP Morgan	22.70	99.623%
Barclays	21.50	99.406%

289. Moreover, the artificiality confirmed by these statistics is made abundantly clear by comparing the actual distribution curves of the Panel Banks to Benford's curve. The curve associated with the aggregated submissions of UBS on the first digit of its day-to-day percentage differences, presents a particularly vivid example:



290. The test results for the USD ICE LIBOR rates themselves also show to a statistical certainty that USD ICE LIBOR rates did not conform to Benford's Law during the Class Period. Benford's Law was tested against the overnight, 1-month, 3-month, 6-month, and 12-month USD ICE LIBOR rates (and in the aggregate). A Chi-squared test was applied to determine the significance of the disparities between expected and actual digit frequency results.

USD ICE LIBOR Rates Statistical Certainty of Inconsistency with Benford's Law

Tenor	Statistical Certainty
Overnight	99.990%
1-Month	99.814%
3-Month	99.950%
6-Month	99.816%
12-Month	99.586%
Aggregate	100.000%

F. The Depressed USD ICE LIBOR Submissions and Rates Were the Product of Collusion

291. It is no mere coincidence that all 18 panel banks submitted artificially low rates in parallel for nearly five years. All Panel Bank Defendants submitted rates lower than they should

have, as indicated by multiple objective measures. The application of Benford's Law demonstrates that the Panel Bank Defendants' submissions were artificial or, in layman's terms, simply conjured or made up. And the Panel Bank Defendants asserted the existence of an active underlying funding market that regulators say does not exist. All of this parallel misconduct was undertaken in the context of concerted action and other factual circumstances, or "plus factors," which, when taken together, indicate that Defendants conspired to depress USD ICE LIBOR rates during with the purpose and effect of depressing payments by Panel Bank Defendants on USD ICE LIBOR Financial Instruments directly to members of the Class in the United States during the Class Period.

1. Corruption of Joint Process

292. Defendants have been engaged in a joint process in setting USD ICE LIBOR. The joint process is concerted action that has been supposedly governed by rules put in place to ostensibly ensure that the final rate was representative of a competitive market. Through their purported "Code of Conduct" and otherwise, ICE and the Panel Bank Defendants put in place a host of policies and procedures that they have portrayed as having improved the quality and transparency of the benchmark in light of the recommendations of the Wheatley Report and like-minded calls for benchmark reform, while, at the same time, they continuously violated the fundamental rule of ICE LIBOR – the LIBOR definition itself – as set out in the Code of Conduct – turning the joint process into collusion. From the outset, the Code of Conduct adopted at the beginning of the Class Period – like the front page of the ICE LIBOR website, the Reuters and Bloomberg screens, and elsewhere – defined the ICE LIBOR by reference to the Submission Question itself:

[Paragraph] 3.1. Contributing banks are asked to base their LIBOR submissions on a response to the question: "***At what rate could you borrow funds, were you to***

do so by asking for and then accepting inter-bank offers in a reasonable market size just prior to 11 am?”¹⁰⁴

293. The Code mandated “adherence to the LIBOR definition (as set out in paragraph 3.1) and the LIBOR Code.”¹⁰⁵ Such adherence required the Panel Bank Defendants to use an “effective methodology” and to “ensure that its LIBOR submissions remain[ed] credible and robust at all times.”¹⁰⁶

294. While the Code contemplated the use of a “range of transaction types” and “expert judgment” in determining submissions, they were to be secondary to the “*contributing bank’s transactions in [t]he unsecured inter-bank deposit market*,” and used only “in adherence to the LIBOR definition,”¹⁰⁷ including with “adjustments” as “necessary to ensure the submission is *representative of and consistent with the market for inter-bank deposits*.”¹⁰⁸ According to IOSCO, the Code thus “requires Contributor Banks to base their submissions on a hierarchy of transactions and adjust their submission to be representative of the interest that Libor seeks to measure,”¹⁰⁹ and it “narrowly prescribe[s]” the Panel Bank Defendants’ respective “*11 a.m. interbank deposits as the basis for submissions*.”¹¹⁰

295. However, as regulators have explained, the interbank funding market purportedly underlying USD ICE LIBOR was far from robust and USD ICE LIBOR was not a representative

¹⁰⁴ ICE LIBOR Code of Conduct (Issue 2), ¶3.1 (Feb. 3, 2014), at https://www.theice.com/publicdocs/171205_LIBOR_Code_of_Conduct_Issue_2.pdf (emphasis in original).

¹⁰⁵ *Id.*, ¶3.8.

¹⁰⁶ *Id.*, ¶3.6.

¹⁰⁷ *Id.*, Annex ¶7.

¹⁰⁸ *Id.*, Annex ¶8.

¹⁰⁹ IOSCO, Review of the Implementation, *supra*, at 85.

¹¹⁰ *Id.* at 87.

rate. The lack of an active underlying market in interbank funding made USD ICE LIBOR susceptible to manipulation. Without an active underlying funding market from which to base their submissions, the Panel Bank Defendants were able to exploit their so-called “expert judgment” to manipulate USD ICE LIBOR submissions and rates through the official rate-setting process they collectively controlled with ICE.

296. ICE was a willing partner with the Panel Bank Defendants in corrupting the process. If it came clean, there might have been no benchmark for it to administer. Benchmark administration is part of ICE’s Data Services division, which ICE identifies as a significant component of their business. As “exchanges are increasingly dependent on revenues from market data and associated services,” ICE has dramatically expanded its data services in recent years, and it is now the third leading financial services data vendor behind only Bloomberg and Reuters.¹¹¹

297. As ICE acknowledged in its Annual Report filed with the United States Securities and Exchange Commission:

Any failures or negative publicity resulting from our administration of LIBOR or other benchmarks could result in a loss of confidence in the administration of these benchmarks and could harm our business and our reputation.

The elimination of LIBOR or any other changes or reforms to the determination or supervision of LIBOR could have an adverse impact on our business, financial condition and operating results.¹¹²

¹¹¹ Max Bowie, *The ICE Storm: Intercontinental Exchange’s Lynn Martin*, Waters Technology (Sept. 25, 2017), <https://www.watersTechnology.com/people/3424656/the-ice-storm-intercontinental-exchanges-lynn-martin> (“Intercontinental Exchange has . . . raised the profile of its data business significantly. . . Lynn Martin, head of ICE Data Services, about the challenge of pulling together those disparate acquisitions into a cohesive whole. Lynn Martin seems modest – embarrassed, even – about the size of her office, a large corner unit with city views in the old Interactive Data offices at 100 Church Street in lower Manhattan, a stone’s throw north of the World Trade Center.”).

¹¹² Intercontinental Exchange, Inc., Annual Report at 29 (Form 10-K) (Feb. 7, 2018).

298. ICE thus aided the Panel Bank Defendants by furthering the conspiracy. Despite having the information within its control from the beginning, ICE never disclosed the lack of interbank funding, particularly the lack of interbank funding underlying USD ICE LIBOR. Like the Panel Bank Defendants, but unlike the general public, ICE knew at least as of the time it officially took over, that there would not be enough interbank lending transactions to support USD ICE LIBOR.

299. In addition to their many other misrepresentations, nondisclosures, and obfuscations, ICE and the Panel Bank Defendants also helped to further the conspiracy and conceal the lack of interbank funding underlying USD ICE LIBOR during the Class Period by disregarding a key directive in the Wheatley Report to regularly update investors on the state of interbank funding. As with other reports that would follow from other organizations calling for financial benchmark reform in the wake of the original LIBOR scandal, the Wheatley Report was resolute in its conclusion that “LIBOR submissions should be explicitly and transparently supported by transaction data.”¹¹³ To that end, the Wheatley Report directed that ICE, as part of its duties in administering LIBOR, regularly publish “statistical bulletins on underlying trades . . . detailing the condition of the underlying market.”¹¹⁴ It explained that such a “statistical bulletin detailing the volumes of transactions that support LIBOR would be a primary instrument of user education.”¹¹⁵

The Wheatley Report provides in part:

¹¹³ Wheatley Report, *supra*, at 27.

¹¹⁴ *Id.* at 40.

¹¹⁵ *Id.*

Currently, the market for inter-bank deposits is not transparent; LIBOR users are not necessarily aware of the volumes of the inter-bank transactions that underpin the benchmark.

Better record-keeping by banks in relation to inter-bank and other transactions would allow more detailed aggregate statistics to be compiled.

These bulletins could be used to improve transparency in these markets, as well as to develop user understanding and education, which could facilitate selection of rate usage. This would help users understand the extent to which expert judgment was used for a given LIBOR benchmark.

Therefore, the Wheatley Review recommends that the new LIBOR administrator should publish a regular statistical bulletin detailing the condition of the underlying market. This publication should use the data collected from contributing banks of relevant transactions. In particular, the statistical bulletin should include the volume and value of relevant inter-bank funding transactions and other related financial instruments.¹¹⁶

300. ICE never implemented this key reform after taking over responsibility for administering LIBOR in early 2014, particularly as to disclosing interbank transactions (not) underlying USD ICE LIBOR.

301. Instead, ICE asked and the Panel Bank Defendants answered the Submission Question each day during the Class Period, leaving the Federal Reserve to observe as recently as July 2018 that since ICE “does not release data on the transactions that actually underlie LIBOR, many may not be aware of how truly thin these markets have become.”¹¹⁷

302. Defendants’ daily depressed USD ICE LIBOR submissions and rates themselves corrupted the joint process, as did their references in USD ICE LIBOR Financial Instruments that portrayed the existence of an active interbank funding market, including those instruments that defined USD ICE LIBOR by reference to the ISDA Definitions, the Reuters or Bloomberg “screens” that parroted the ICE LIBOR Submission Question, or otherwise indicated the

¹¹⁶ *Id.*

¹¹⁷ Quarles Introductory Remarks, *supra*.

existence of an active interbank funding market that did not exist. This corruption furthered the conspiracy to depress USD ICE LIBOR and thus payments on USD ICE LIBOR Financial Instruments by Panel Bank Defendants to members of the Class in the United States during the Class Period.

2. Additional “Plus Factors” Indicating Conspiracy

a. Motive to Conspire

303. The Panel Bank Defendants have had ample financial motivation to depress LIBOR collusively. To start, the structural characteristics of the ICE LIBOR-setting process and ICE LIBOR have made collusion feasible. USD ICE LIBOR was the dominant benchmark and Defendants dominated the benchmark rate. The submissions, upon which the published rates were based, were 100% within the collective discretion of the Panel Bank Defendants. With no underlying market, the rate could potentially be whatever Defendants collectively said the rate was in their “expert judgment.” The Panel Bank Defendants had the ability to consistently move USD ICE LIBOR in the direction they desired – if they worked together.

304. Directionally, the Panel Bank Defendants – including the persons on the funding desks charged with actually setting USD ICE LIBOR – had the incentive to depress USD ICE LIBOR. In connection with USD ICE LIBOR Financial Instruments, as explained above, with hundreds of billions in floating rate issuances, the lower USD ICE LIBOR was set, the lower the amount of floating interest that the Panel Bank Defendants paid to investors was: every basis point (*i.e.*, 0.0001) movement in USD ICE LIBOR downward would save the Panel Bank Defendants more than \$100 million in payments on such notes during the Class Period. This is not to mention the payments saved on interest rate swaps in which the Panel Bank Defendants swapped their fixed-rate liabilities to floating liabilities linked USD ICE LIBOR.

305. Additional incentive is found within the Panel Bank Defendants' funding desks, which have the most direct responsibility within the banks for submitting and setting LIBOR, and which have their own profit and loss statements. Funding desks are responsible for issuing debt and their ICE LIBOR-indexed liabilities significantly outweigh their ICE LIBOR based assets, so the funding desks and personnel on the funding desks, whose compensation is relatively higher if the banks' interest expense is relatively lower, are incentivized to keep ICE LIBOR depressed.

306. In addition, unlike banks' floating rate liabilities, which are mostly indexed to LIBOR, a bank's floating rate assets are indexed to a more diverse set of benchmarks, including the prime rate and other benchmarks. It would be expected, therefore, that the Panel Bank Defendants' floating rate liabilities were relatively more exposed to LIBOR than the Panel Bank Defendants' floating rate assets during the Class Period. This would mean that a depressed LIBOR would benefit a Panel Bank Defendant with respect to its predominantly-LIBOR-linked floating rate liabilities relatively more than it might negatively affect the value of that the Panel Bank Defendant's floating rate asset portfolio, relatively less of which would be indexed to LIBOR.

b. Opportunity to Conspire

307. As a group effort by horizontal competitors, the ICE LIBOR-setting process provided an inherent opportunity to conspire. Associations of horizontal competitors are rife with opportunity for collusion. Moreover, opportunity was provided during meetings between and among Defendants in "Panel Bank Forums," as well as official and unofficial industry groups and otherwise. During the Class Period, ICE hosted "a regular Panel Bank Forum" for the Panel Bank Defendants to "discuss a range of topics" and "any agenda items requested by

Benchmark Submitters.”¹¹⁸ These meetings were in addition to so-called “bilateral” meetings and communications between ICE and each of the Panel Bank Defendants. The nature of the polling process meant that ICE and each of the panel banks communicated at least daily. Moreover, the Panel Bank Defendants constituted the leadership of numerous financial industry groups, including organizations dealing specifically with ICE LIBOR and financial products indexed to ICE LIBOR, during which they would have engaged in countless interfirm communications.

308. For instance, the Panel Bank Defendants occupy numerous positions on the Board of Directors and important committees of ISDA which is the industry group that ultimately controls how the definition of USD ICE LIBOR is documented in financial instruments, such as interest rate swaps and floating rate notes. The Panel Bank Defendants also regularly meet in less “official” capacities, including in annual meetings of in-house counsel in various locations ranging from Versailles to Litchfield County, Connecticut, where benchmark manipulation cases were high on the agenda for discussion, as first reported on by Bloomberg in 2016.¹¹⁹

c. Recidivism

309. Another plus factor indicating collusion is the Panel Bank Defendants’ history of antitrust violations, including not only rigging LIBOR prior to ICE taking over as administrator, as well as other “IBOR” rates in the past, but also rigging other globally significant financial benchmarks with which they have been entrusted, including the daily WM-Reuters FX foreign currency exchange benchmark fixing, the ISDAfix swap rate fixing, as well as the Silver and

¹¹⁸ ICE, Policy Composition of ICE LIBOR Currency Panels, *supra*.

¹¹⁹ Greg Farrell & Keri Geiger, *Inside the Secret Society of Wall Street’s Top In-House Lawyers*, BLOOMBERG (Oct. 14, 2016), <https://www.bloomberg.com/news/articles/2016-10-14/what-top-bank-lawyers-were-doing-at-secret-versailles-summit>.

Gold daily fixings. The Panel Bank Defendants have paid billions collectively in criminal fines and civil penalties to U.S. and global enforcers as well as to resolve civil cases brought by investors stemming from government investigations of these and other schemes to manipulate systemically important financial products and markets during the past decade. Some have even pled guilty to federal crimes.

d. Actions Against Unilateral Self-Interest

310. It would have made no sense for each of the Panel Bank Defendants to consistently depress their individual submissions unilaterally. Due to the nature of the ICE LIBOR fixing process, it would take the collective efforts of the group to consistently profit from their opportunity without detection. Since the final published rate was an average of 16 to 18 Panel Bank Defendants' submissions with top and bottom four excluded, it would not only be less effective, but often times futile, for one bank to make artificial submissions in hopes of unilaterally manipulating USD ICE LIBOR.

311. Moreover, unilateral attempts at manipulation meant the possibility of detection, while there was safety in numbers by staying together and using the public rate-setting process to facilitate collusive manipulation. Having paid billions in criminal fines, civil penalties, and civil settlements in connection with the prior LIBOR, other past and ongoing benchmark manipulation, and other scandals and the increased regulatory scrutiny, it would have been more risky for a Panel Bank Defendant to attempt to unilaterally manipulate than collusively depress USD ICE LIBOR.

3. No Natural Reaction to Common Stimuli

312. Since Defendants' submissions were artificial, it simply cannot be that their parallelism happened to reflect 18 banks all reacting legitimately to natural market forces in the same way over nearly five years. Antitrust law calls for more than mere parallel conduct to infer

conspiracy is because sometimes parallel behavior is a natural reaction to common stimuli. Here, however, not only were each of the Panel Bank Defendants' daily submissions across multiple tenors over multiple years depressed in parallel, they were – ***with greater than 99% certainty*** – manufactured.

313. Taken together with their corruption of the joint rate-setting process and the plus factors articulated above – motive, opportunity, recidivism, and actions against unilateral self-interest – the violation of Benford's Law shows that the Panel Bank Defendants' parallel misconduct did not result from chance, coincidence, independent responses to common stimuli, or mere interdependence unaided by an advanced understanding among the parties; rather, it shows submissions resulting from collusion.

G. USD ICE LIBOR Financial Instruments under which Class Members Directly Received Depressed LIBOR-Indexed Payments from Panel Bank Defendants

314. Plaintiff brings this action on certain types of floating rate financial instruments, which made payments based on interest at a rate indexed to a USD ICE LIBOR benchmark rate directly from a Panel Bank Defendant: (1) USD ICE LIBOR Floating Rate Debt Instruments, and (2) USD ICE LIBOR Receiver Interest Rate Swaps (collectively, “USD ICE LIBOR Financial Instruments”).

315. In both types of USD ICE LIBOR Financial Instruments, USD ICE LIBOR rates form a component of the price, in that payments by Panel Bank Defendants to members of the Class on both types of instruments are indexed to a depressed USD ICE LIBOR rate that the Panel Bank Defendants themselves collusively fixed at artificially low levels. Panel Bank Defendants directly underpaid members of the Class on USD ICE LIBOR Financial Instruments, materially and proximately causing injury and damages to, and reaping ill-gotten gains directly from, members of the Class in the United States.

1. Floating-Rate Notes and Other USD ICE LIBOR-Indexed Floating Rate Debt Instruments Issued by Panel Bank Defendants under Which Investors Received Floating Rate Payments Directly from Panel Bank Defendants

316. Floating-rate notes (“FRNs”) are notes with interest rates that vary based on a benchmark rate. USD ICE LIBOR is the one of the most widely-used benchmarks in floating-rate notes, particularly those issued or sold in the United States.

317. The floating or variable rates at which investors in FRNs are paid by issuers are reset periodically, as defined in the terms of the FRNs, typically by reference to a benchmark rate and a spread. To illustrate, the issuer/obligor on a FRN might pay interest quarterly to investors at 3-month USD ICE LIBOR plus 0.5%. If 3-month USD ICE LIBOR is set at 2%, then the interest rate, or coupon, on the note would be 2.5%. If 3-month USD ICE LIBOR is set lower, at 1%, for example, then the coupon payable to the investor would be 1.5% instead of 2.5%.

318. Interest rates reset at a variety of frequencies, most commonly at monthly or quarterly intervals. FRNs are issued by both governmental entities and public corporations, such as Apple, Ford, and GM, as well as by the Panel Bank Defendants themselves.

319. In addition to FRNs, banks also issued other similar debt instruments indexed to USD ICE LIBOR during the Class Period, including certificates of deposit, Yankee CDs, bank notes, senior unsecured notes, subordinated bonds, debentures, preferred stock, trust preferred securities, capital securities, hybrid securities, and covered bonds (collectively with FRNs, “USD ICE LIBOR Floating Rate Debt Instruments”).

320. During the Class Period, the Panel Bank Defendants issued billions of dollars in floating-rate debt linked directly to USD ICE LIBOR. As obligors, the Panel Bank Defendants paid interest to investors on such debt at rates that varied with USD ICE LIBOR. The lower they set USD ICE LIBOR, the lower they were obligated to pay in floating rate interest to investors,

and the lower the amount of floating interest rate payments investors received from the Panel Bank Defendants.

321. With, on average, more than \$250 billion in their own issuances of USD ICE LIBOR Floating Rate Debt Instruments outstanding at any time during the Class Period, every basis point (*i.e.*, 0.0001) movement in USD ICE LIBOR downward would save the Panel Bank Defendants – and cost investors – more than \$100 million in payments on those kinds of instruments over the Class Period.

322. Investors who held USD ICE LIBOR Floating Rate Debt Instruments suffered injury and damages when Defendants set USD ICE LIBOR lower than it should have been set by directly receiving from a Panel Bank Defendant a payment based on interest at a rate indexed to USD ICE LIBOR during the Class Period.

2. USD ICE LIBOR-Indexed Interest Rate Swaps under which Counterparties Received Floating Rate Payments Directly from Panel Bank Defendants

323. An “Interest Rate Swap” is an agreement between two parties to exchange streams of interest payments for one another, over a set period of time. The vast majority of interest rate swaps are known as “vanilla” swaps that exchange fixed-rate payments for floating-rate payments based on USD ICE LIBOR.

324. Interest Rate Swaps are derivative contracts that trade Over-the-Counter (“OTC”). They are nearly always governed by the International Swaps and Derivatives Association (“ISDA”) Master Agreement and the ISDA Definitions, which define USD ICE LIBOR in accordance with the ICE LIBOR Submission Question. The Panel Bank Defendants entered into trillions of dollars in Interest Rate Swaps with counterparties during the Class Period.

325. Among other things, Interest Rate Swaps allow the Panel Bank Defendants to swap their fixed-rate liabilities, such as from fixed-rate issuances to floating-rate liabilities. As a

matter of course, large banks convert significant amounts of fixed-rate liabilities into floating-rate liabilities via interest rate swaps, providing them even greater exposure to USD ICE LIBOR.

326. Interest Rate Swaps that entitle a counterparty to receive floating rate interest payments based upon a USD ICE LIBOR rate directly from a Panel Bank Defendant are referred to herein as “USD ICE LIBOR Receiver Interest Rate Swaps.”

327. Counterparties to USD ICE LIBOR Receiver Interest Rate Swaps suffered injury and damages when Defendants set USD ICE LIBOR lower than it should have been set by directly receiving from a Panel Bank Defendant a payment based on interest at a rate indexed to USD ICE LIBOR during the Class Period.

H. Defendants’ Roles in Achieving the Purpose and Effect of the Conspiracy

328. The conspiracy had the purpose and effect of depressing payments to members of the Class by Panel Bank Defendants on financial instruments indexed to USD ICE LIBOR benchmark rates in the United States during the Class Period. Panel Bank Defendants worked together to accomplish their goal. Among other overt acts undertaken in furtherance of the conspiracy, some Panel Bank Defendants made depressed ICE LIBOR submissions to ICE that resulted in depressed USD ICE LIBOR rates. Some Panel Bank Defendants issued or otherwise directly transacted with members of the Class in USD ICE LIBOR Financial Instruments incorporating USD ICE LIBOR in the United States. Some Panel Bank Defendants had multiple roles, as did ICE, which participated in all aspects of the corrupt ICE LIBOR process.

329. During the Class Period, at least the following Panel Bank Defendant entities directly underpaid members of the Class on USD ICE LIBOR Financial Instruments as an issuer or counterparty in furtherance of the conspiracy, including by making payments based on depressed USD ICE LIBOR rates directly to members of the Class in the United States, materially and proximately causing injury and damages to, and reaping ill-gotten gains directly

from, members of the Class in the United States: Bank of America Corporation, Bank of America N.A., Citigroup Inc., Citibank, N.A., JPMorgan Chase & Co., JPMorgan Chase Bank, N.A., BNP Paribas SA, Crédit Agricole S.A., Crédit Agricole Corporate and Investment Bank, Credit Suisse Group AG, Credit Suisse AG, Deutsche Bank AG, HSBC Holdings plc, HSBC Bank plc, HSBC Bank USA, N.A., Lloyds Bank plc, MUFG Bank, Ltd., The Bank of Tokyo-Mitsubishi UFJ Ltd., Mitsubishi UFJ Financial Group, Inc., The Norinchukin Bank, Coöperatieve Rabobank U.A., Royal Bank of Canada, Royal Bank of Scotland Group plc, Société Générale S.A., Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Financial Group, Inc., UBS Group AG, and UBS AG.

330. At least the following Panel Bank Defendant entities made depressed USD ICE LIBOR submissions in furtherance of the conspiracy: Bank of America N.A., Citibank, N.A., JPMorgan Chase Bank, N.A., Barclays Bank plc, BNP Paribas S.A., Credit Agricole CIB, Credit Suisse AG, Deutsche Bank AG, HSBC Bank plc, Lloyds Bank plc, MUFG Bank, Ltd., Bank of Tokyo-Mitsubishi UFJ Ltd., The Norinchukin Bank, Coöperatieve Rabobank U.A., Royal Bank of Canada, Royal Bank of Scotland plc, National Westminster Bank plc, Société Générale, Sumitomo Mitsui Banking Corporation Europe Ltd., and UBS AG.

331. At least the following Panel Bank Defendant entities sold USD ICE LIBOR Financial Instruments directly to members of the Class in the United States in furtherance of the conspiracy, with the purpose and effect of materially and proximately causing injury and damages and reaping ill-gotten gains in the United States: Merrill Lynch, Pierce, Fenner & Smith Inc., Citigroup Global Markets Inc., J.P. Morgan Securities LLC, BNP Paribas Securities Corp., Crédit Agricole Securities (USA) Inc., Credit Suisse Securities (USA) LLC, Deutsche Bank Securities Inc., HSBC Securities (USA) Inc., Lloyds Securities Inc., MUFG Securities Americas

Inc., The Norinchukin Bank, Coöperatieve Rabobank U.A., RBC Capital Markets, LLC, Natwest Markets Securities Inc., SG Americas Securities, LLC, SMBC Capital Markets, Inc., and UBS Securities LLC.

V. CLASS ACTION ALLEGATIONS

332. Plaintiff brings this action on behalf of itself, and, under Rules 23(a) and (b) of the Federal Rules of Civil Procedure, on behalf of:

All persons or entities residing in the United States that directly transacted with a Panel Bank Defendant in a USD ICE LIBOR Financial Instrument during the Class Period by directly receiving from a Panel Bank Defendant a payment based on interest at a rate indexed to a USD ICE LIBOR benchmark rate set at any time during the Class Period, regardless of when the USD ICE LIBOR Financial Instrument was purchased.

333. “USD ICE LIBOR Financial Instrument” means an instrument that includes any term, provision, obligation or right to be paid or to receive payment based on interest at a rate indexed to a USD ICE LIBOR benchmark rate by a Panel Bank Defendant on a (1) USD ICE LIBOR Floating Rate Debt Instrument, as defined herein, or (2) USD ICE LIBOR Receiver Interest Rate Swap, as defined herein.

334. “Class Period” means the period from February 1, 2014, through the present.

335. Excluded from the Class are Defendants, and their officers, directors, management, employees, subsidiaries, and affiliates. Also excluded is the Judge presiding over this action, his or her law clerks, spouse, and any person within the third degree of relationship living in the Judge’s household and the spouse of such a person.

336. Members of the Class are so numerous and geographically dispersed that joinder is impracticable. Further, members of the Class are readily identifiable from information and records in the possession of Defendants.

337. Plaintiff's claims are typical of the claims of the members of the Class. Plaintiff and members of the Class were damaged by the same wrongful conduct of Defendants.

338. Plaintiff will fairly and adequately protect and represent the interests of members of the Class. The interests of the Plaintiff are coincident with, and not antagonistic to, those of members of the Class.

339. Plaintiff is represented by counsel with experience in the prosecution and leadership of class action antitrust and other complex litigation, including class actions in the financial services industry, having brought successful claims against many of the same Defendants named herein.

340. Questions of law and fact common to the members of the Class predominate over questions that may affect only individual Class members, thereby making damages with respect to members of the Class as a whole appropriate. Questions of law and fact common to members of the Class include, but are not limited to:

- a. whether Defendants conspired to unreasonably restrain trade in violation of federal antitrust laws;
- b. whether Defendants were unjustly enriched;
- c. the duration of the alleged conduct and conspiracy;
- d. injury suffered by Plaintiff and members of the Class;
- e. damages suffered by Plaintiff and members of the Class;
- f. the amount by which Defendants were unjustly enriched; and
- g. whether Defendants have acted or refused to act on grounds generally applicable to members of the Class, thereby making appropriate final injunctive relief or corresponding declaratory relief with respect to members of the Class as a whole.

341. Class action treatment is a superior method for the fair and efficient adjudication of the controversy. Such treatment will permit a large number of similarly situated persons to

prosecute their common claims in a single forum simultaneously, efficiently and without the unnecessary duplication of evidence, effort, or expense that numerous individual actions would require.

342. The benefits of proceeding through the class mechanism, including providing injured persons or entities a method for obtaining redress on claims that could not practicably be pursued individually, substantially outweighs potential difficulties in management of this class action.

343. Plaintiff knows of no special difficulty to be encountered in the maintenance of this action that would preclude its maintenance as a class action.

344. Plaintiff has defined members of the Class based on currently available information and hereby reserves the right to amend the definition of members of the Class, including, without limitation, the Class Period.

VI. STATUTES OF LIMITATIONS AND TOLLING

345. Plaintiff disclaims any burden to plead facts regarding statutes of limitations.

346. By its very nature, the unlawful activity that Defendants engaged in was self-concealing. As a result of Defendants' affirmative acts, misrepresentations, and nondisclosures as alleged herein, any applicable statutes of limitation on claims asserted by Plaintiff and members of the Class have been and are tolled, and Defendants are equitably estopped from raising statutes of limitations as a defense.

347. It was not until July 2018 that the Federal Reserve publicly disclosed data reflecting its "informed estimate" as to how few "transactions" support USD ICE LIBOR submissions and rates. Indeed, the Federal Reserve explained that because ICE "does not release

data on the transactions that actually underlie LIBOR, *many may not be aware of how truly thin these markets have become.*¹²⁰

348. In addition, rather than follow the directive of Wheatley to regularly publish “statistical bulletins on underlying trades detailing the condition of the underlying market,”¹²¹ during the Class Period, Defendants – in addition to their other daily misrepresentations and nondisclosures, including as to the state of interbank funding and the rates at which they could expect to borrow – concealed the truth as to USD ICE LIBOR rates and submissions, by at once failing to disclose relevant interbank funding statistics and by obfuscating, including by passing off summary information on non-interbank “transactions” underlying USD ICE LIBOR, as including interbank transactions sufficient to support USD ICE LIBOR.

349. Defendants also have actively concealed their misconduct by placing substantial barriers to the public access and use of the individual submissions by the Panel Bank Defendants. ICE and the Panel Bank Defendants anonymized and otherwise stopped publishing individual bank submissions alongside ICE LIBOR rates as of July 29, 2016. Even the so-called “anonymized” submissions are not widely available. While the pre-July 2016 individual submissions remain available on services like Bloomberg, the individual submissions after that date are not. Moreover, the anonymized submissions are available only through ICE, which maintains that this data is “proprietary” and requires that persons wishing to view historical data register with ICE and agree to keep it secret. Persons seeking to access individual submissions must agree with “Intercontinental Exchange, Inc., and any of its respective current or future

¹²⁰ Quarles Introductory Remarks, *supra*.

¹²¹ Wheatley Report, *supra*, at 40.

affiliates" on a number of "Use Restrictions on ICE Content," which operate to conceal and deter reasonable inquiries into violations of law if observed.

350. These ICE secrecy requirements run contrary to the clear dictate of the Wheatley Report that the inputs to the LIBOR rate be transparent.

VII. CLAIMS FOR RELIEF

CLAIM I: PRICE FIXING

351. Plaintiff incorporates by reference and re-alleges the preceding allegations as though fully set forth herein.

352. During the Class Period, Defendants combined and conspired to, and did, unreasonably restrain trade by fixing, rigging, depressing, and otherwise manipulating USD ICE LIBOR and financial instruments indexed to USD ICE LIBOR.

353. The combination and conspiracy alleged herein is a *per se* violation of Section 1 of the Sherman Antitrust Act, 15 U.S.C. §1. Defendants engaged in a horizontal price-fixing conspiracy. USD ICE LIBOR rates form a component of the price of USD ICE LIBOR Financial Instruments, and the fixing of a component of price violates the antitrust laws.

354. Alternatively, the combination and conspiracy in unreasonable restraint of trade alleged herein is a quick look or rule of reason violation of Section 1. There is no legitimate business justification for, or pro-competitive benefits attributable to, Defendants' conspiracy and overt acts in furtherance thereof. Any proffered business justification or asserted pro-competitive benefits would be pretextual, outweighed by the anticompetitive effects of Defendants' conduct, and, in any event, could be achieved by means less restrictive than the conspiracy and overt acts alleged herein.

355. Plaintiff and members of the Class have been injured in their business and property by reason of Defendants' violation of Section 1 of the Sherman Act, within the meaning of Section 4 of the Clayton Antitrust Act, 15 U.S.C. §15.

356. Plaintiff and members of the Class are threatened with future injury to their business and property by reason of Defendants' continuing violation of Section 1 of the Sherman Act, within the meaning of Section 16 of the Clayton Antitrust Act, 15 U.S.C. §26.

CLAIM II:
UNJUST ENRICHMENT

357. Plaintiff incorporates by reference and re-alleges the preceding allegations as though fully set forth herein.

358. By means of their conduct set forth in this Complaint, Defendants knowingly acted in an unfair, unconscionable, oppressive, and otherwise inequitable manner. As a result of their unlawful conduct, Defendants have enjoyed substantial ill-gotten gains at the expense of Plaintiff and members of the Class. It is inequitable for Defendants to be permitted to retain such benefits conferred directly upon them by Plaintiff and members of the Class.

359. Under common law principles of unjust enrichment, Plaintiff seeks the establishment of a constructive trust, into which Defendants may be made to disgorge their ill-gotten gains, from which Plaintiff and members of the Class may seek restitution.

VIII. PRAYER FOR RELIEF

WHEREFORE, Plaintiff, on behalf of itself and members of the Class, respectfully prays that This Honorable Court:

A. Order that this action may be maintained as a class action pursuant to Rules 23(a) & (b) of the Federal Rules of Civil Procedure, that it be named a Class Representative, that the

undersigned be named Lead Class Counsel, and that reasonable notice of this action, as provided by Rule 23(c)(2), be given to members of the Class;

- B. Adjudge that Defendants violated each of the federal and state laws set forth above;
- C. Award Plaintiff and members of the Class treble damages;
- D. Award Plaintiff and members of the Class reasonable attorneys' fees and costs of suit, including costs of consulting and testifying experts;
- E. Award Plaintiff and members of the Class pre- and post-judgment interest;
- F. Establish a constructive trust into which Defendants be made to disgorge all ill-gotten gains from which Plaintiff and members of the Class may obtain restitution; and
- G. Grant such other, further and different relief as may be just and proper.

IX. DEMAND FOR JURY TRIAL

Under Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff demands a Trial by Jury as to all issues so triable.

Dated: January 15, 2019

SCOTT+SCOTT ATTORNEYS AT LAW LLP

/s/ David R. Scott
David R. Scott
Deborah Clark-Weintraub
Peter A. Barile III
Thomas K. Boardman
The Helmsley Building
230 Park Avenue, 17th Floor
New York, NY 10169
Telephone: (212) 223-6444
Facsimile: (212) 223-6334
david.scott@scott-scott.com
dweintraub@scott-scott.com
pbarile@scott-scott.com
tboardman@scott-scott.com

Amanda F. Lawrence
156 South Main Street
P.O. Box 192
Colchester, CT 06415
Telephone: (860) 537-5537
Facsimile: (860) 537-4432
alawrence@scott-scott.com

KOREIN TILLERY, LLC
George A. Zelcs
Randall P. Ewing, Jr.
205 North Michigan Avenue, Suite 1950
Chicago, IL 60601
Telephone: (312) 641-9750
Facsimile: (312) 641-9751
gzelcs@koreintillery.com
rewing@koreintillery.com

Steven M. Berezney
Michael E. Klenov
505 North 7th Street, Suite 3600
St. Louis, MO 63101
Telephone: (314) 241-4844
Facsimile: (314) 241-3525
sberezney@koreintillery.com
mklenov@koreintillery.com

LOWEY DANNENBERG, P.C.
Vincent Briganti
Geoffrey M. Horn
Christian Levis
44 South Broadway, Suite 1100
White Plains, NY 10601
Telephone.: (914) 997-0500
Facsimile: (914) 997-0035
vbriganti@lowey.com
ghorn@lowey.com
clevis@lowey.com

ROBBINS GELLER RUDMAN & DOWD LLP
Randi D. Bandman
30 Vesey Street, Suite 200
New York, NY 10007
Telephone: (212) 693-1058
Facsimile: (212) 693-7423
randib@rgrdlaw.com

Steve Jodlowski
Patrick J. Coughlin
655 W. Broadway, Suite 1900
San Diego, CA 92101
Telephone: (619) 231-1058
Facsimile: (619) 231-7423
sjodlowski@rgrdlaw.com
patc@rgrdlaw.com

ROBINS KAPLAN LLP
Thomas J. Undlin
Stacey P. Slaughter
Geoffrey H. Kozen
800 LaSalle Avenue, Suite 2800
Minneapolis, MN 55402
Telephone: 612-349-8500
Facsimile: 612-339-4181
tundlin@robinskaplan.com
sslaughter@robinskaplan.com
gkozen@robinskaplan.com

Hollis Salzman
David B. Rochelson
399 Park Avenue, Suite 3600
New York, NY 10022
Telephone: (212) 980-7400
Facsimile: (212) 980-7499
hsalzman@robinskaplan.com
drochelson@robinskaplan.com

Counsel for Plaintiff and the Proposed Class